



SYSTEM TEST PHASE II
TEST REPORT
for the
Radiosonde Replacement System (RRS)
June, 2005

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TABLE OF CONTENTS

| | |
|--|-----------|
| LIST OF ABBREVIATIONS AND ACRONYMS | IV |
| 1.0 INTRODUCTION..... | 7 |
| 2.0 RRS SYSTEM DESCRIPTION | 7 |
| 2.1 HARDWARE..... | 7 |
| 2.2 SOFTWARE | 8 |
| 3.0 TEST OBJECTIVES | 8 |
| 3.1 ASSESSMENT OF WORKSTATION TRAINING | 8 |
| 3.2 ASSESSMENT OF SUPPLEMENTAL OPERATOR FAMILIARIZATION | 8 |
| 3.3 DEMONSTRATION OF 24/7 UPPER AIR OPERATIONS | 9 |
| 3.4 ASSESSMENT OF FLIGHT CHARACTERISTICS..... | 9 |
| 3.5 ASSESSMENT OF END-TO-END COMMUNICATIONS | 9 |
| 4.0 TEST METHODOLOGY | 10 |
| 4.1 TEST LOCATION | 10 |
| 4.2 TEST SETUP AND CONFIGURATION | 11 |
| 4.3 SUPPLEMENTAL OPERATOR FAMILIARIZATION | 11 |
| 4.4 FLIGHT TEST PROCEDURES..... | 11 |
| 5.0 TEST RESULTS | 12 |
| 5.1 EVALUATION OF WORKSTATION TRAINING | 13 |
| 5.2 EVALUATION OF SUPPLEMENTAL OPERATOR FAMILIARIZATION | 15 |
| 5.3 EVALUATION OF 24/7 UPPER AIR OPERATIONS..... | 16 |
| 5.4 FLIGHT CHARACTERISTICS NCEP ANALYSES | 18 |
| 5.5 FLIGHT CHARACTERISTICS NCDC ANALYSES | 21 |
| 5.6 FLIGHT CHARACTERISTICS GPS-IPW COMPARISONS..... | 21 |
| 5.7 FLIGHT CHARACTERISTICS RRS/MICROART METEOROLOGICAL COMPARISONS..... | 24 |
| 5.8 ASSESSMENT OF END-TO-END COMMUNICATIONS | 30 |
| 6.0 CONCLUSION AND RECOMMENDATIONS..... | 33 |

TABLES

| | |
|--|----|
| TABLE 1: SUMMARY OF SIRs BY PRIORITY AND IMPACT | 13 |
| TABLE 2: SUMMARY OF TRAINING SURVEY | 14 |
| TABLE 3: SUMMARY OF SUPPLEMENTAL OPERATOR FAMILIARIZATION | 16 |
| TABLE 4: SYNOPTIC IPW COMPARISON STATISTICS | 24 |
| TABLE 5: SUMMARY OF TEMPERATURE DIFFERENCES FOR SELECTED PRESSURE LEVELS | 26 |
| TABLE 6: SUMMARY OF HEIGHT DIFFERENCES FOR SELECTED STANDARD PRESSURE LEVELS | 27 |
| TABLE 7: RRS VS. MICROART: CALCULATED PARAMETERS COMPARISON STATISTICS | 29 |

| | |
|--|----|
| TABLE 8: DEFINITION OF HEADERS USED FOR TEST | 32 |
|--|----|

FIGURES

| | |
|--|----|
| FIGURE 1 PLOT OF 850 MILLIBAR TEMPERATURE DIFFERENCES. | 19 |
| FIGURE 2 PLOT OF 850 MILLIBAR HEIGHT DIFFERENCES..... | 19 |
| FIGURE 3 PLOT OF 10 MILLABAR TEMPERATURE DIFFERENCES | 20 |
| FIGURE 4 PLOT OF 10 MILLIBAR HEIGHT DIFFERENCES..... | 21 |
| FIGURE 5 PLOT INTEGRATED PRECIPITABLE WATER DATA | 22 |
| FIGURE 6 SCATTER PLOT OF GPS IPW VERSUS RRS IPW | 23 |
| FIGURE 7 HISTOGRAM OF DIFFERENCES GPS IPW MINUS RRS IPW | 23 |
| FIGURE 8 RAOB PLOT ILLUSTRATING DIFFERENCES IN STRUCTURE | 25 |
| FIGURE 9 PLOT OF RRS IPW AND OPERATIONAL B2 DATA..... | 25 |
| FIGURE 10: PLOT OF MEAN TEMPERATURE DIFFERENCES | 27 |
| FIGURE 11: PLOT OF MEAN HEIGHT DIFFERENCES | 28 |
| FIGURE 12: RAOB PLOT ILLUSTRATING GOOD AGREEMENT IN WIND STRUCTURE | 29 |

APPENDICIES

| | |
|---|-----|
| APPENDIX A: Technical Implementation Notices | 36 |
| APPENDIX B: Test Case Scenario | 41 |
| APPENDIX C: TRG Minutes With Disposition Of SIRS..... | 134 |
| APPENDIX D: Legacy System Performance Measures | 144 |
| APPENDIX E: NCEP Difference Plots..... | 149 |
| APPENDIX F: Plots Of IPW | 158 |

List of Abbreviations and Acronyms

| Abbreviation | Definition |
|---------------------|--|
| ART | Automated Radio Theodolite |
| AWIPS | Advanced Weather Interactive Processing System |
| BIT | Built-In-Test |
| CCB | Configuration Control Board |
| CLIMAT | NWS Monthly Site Upper Air Summary Product |
| COTR | Contracting Officer's Technical Representative |
| COTS | Commercial Off-The-Shelf |
| CDU | Control Display Unit |
| ERH | NWS Eastern Region Headquarters |
| EMRS | Engineering Management Reporting System |
| ESA | Electronics System Administrator |
| FTP | File Transfer Protocol |
| GPS | Global Positioning System |
| GUI | Graphical User Interface |
| hPa | Hecto-Pascal |
| IPW | Integrated Precipitable Water Vapor |
| km | Kilometer |
| kts | Knots |
| LDAD | Local Data Acquisition Device |
| LRIP | Low-Rate Initial Production |
| LRU | Line Replaceable Unit |
| LSPM | Legacy System Performance Measures |
| LWX | National Weather Service identifier for the BWWFO. |
| MIC | Meteorologist-In-Charge |

| Abbreviation | Definition |
|---------------------|---|
| NCDC | National Climatic Data Center |
| NCEP | National Centers for Environmental Prediction |
| NCF | (AWIPS) National Control Facility |
| NLSC | National Logistics Support Center |
| NRC | National Reconditioning Center |
| NWS | National Weather Service |
| NWSFO | National Weather Service Forecast Office |
| NWSO | National Weather Service Observing |
| NWSTC | NWS Training Center |
| NWSTG | NWS Telecommunication Gateway |
| OAT | Operational Acceptance Test |
| OBIT | Offline Built In Test utility suite |
| OMS | Offline Maintenance Suite |
| OPS11 | NWS Engineering and Acquisition Branch |
| OPS12 | NWS Maintenance Branch |
| OPS13 | NWS Configuration Branch |
| OPS22 | NWS Observing Systems Branch |
| OPS23 | NWS Software Branch |
| OPS24 | NWS Test and Evaluation Branch |
| OS7 | NWS Observing Services Division |
| OST11 | NWS Program Management Branch |
| OST31 | NWS Analysis Branch |
| PAMS | Product Availability Monitoring System |
| PC | Personal Computer |
| PCA | Physical Configuration Audit |
| PDB | Precision Digital Barometer |

| Abbreviation | Definition |
|---------------------|---|
| RH | Relative Humidity |
| RMA | Reliability, Maintainability, and Availability |
| RRS | Radiosonde Replacement System |
| RSOIS | Radiosonde Surface Observation Instrumentation System |
| RWS | RRS Workstation Subsystem |
| QSS | QSS Group Inc. |
| SIR | System Issue Report |
| SIT | System Integration Test |
| SRS | System Requirement Specification |
| SPS | Signal Processing System |
| SR&DC | Sterling Research and Development Center |
| ST | System Test |
| ST II / ST2 | System Test Phase 2 |
| S/W | Software |
| TRG | Test Review Group |
| TRS | Telemetry Receiving System |
| UPS | Uninterruptible Power Supply |
| UTC | Universal Time Coordinated |
| WFO | Weather Forecast Office |
| WMO | World Meteorological Organization |
| WSH | National Weather Service Headquarters |
| WSOM | Weather Service Operations Manual |

1.0 Introduction

The National Weather Service (NWS) will transition from the current radiosonde system into the new Radiosonde Replacement System (RRS) to collect and process upper air data using modern technology. The RRS will be nationally deployed after the government successfully completes a series of tests, the last two of which are the System Test (ST) and the Operational Acceptance Test (OAT).

This report summarizes the results of the System Test Phase II (ST II). The ST II was the final phase of testing prior to beginning OAT and the sending out of RRS products for operational use. The ST II test was designed to demonstrate that the RRS is ready for use in an operational environment. The test was conducted under the supervision of OPS22 personnel from Sterling, VA. However, to ensure an unbiased test and to maintain an operational environment, the actual upper air soundings were conducted by six volunteers from various field sites. The test consisted of an operational assessment of the system and observer training material. This included an end-to-end communications test in which NWS customers were afforded the opportunity to analyze the RRS upper air products. Also, as part of the test, a data quality study was conducted by the National Center for Environmental Prediction (NCEP) located in Camp Springs, Maryland and the National Climatic Data Center (NCDC) located in Asheville, North Carolina.

To ensure an operational environment the ST II was conducted at the National Weather Forecast Office located in Caribou, Maine. This site was selected because it has been used as the NWS upper air winter weather test bed since the late 1980s. As such, there was in place the operational ART system and an RRS, which was installed at Caribou for testing during the developmental stage of the RRS program. The actual test started on 16 May and ended on 9 June, 2005.

The guidelines for conducting the ST II were outlined in the System Test Phase II Plan for the Radiosonde Replacement System dated April 2005. That document is a subsidiary of the *System Test Plan for the RRS*, dated July 2003.

2.0 RRS System Description

The RRS consists of several subsystems, which were integrated together by the NWS to work as one complete system for purposes of taking an upper air sounding in an easy and efficient manner. The following subsection is a list of the major subsystems tested during ST II and a brief description of their function as part of the RRS.

2.1 Hardware

1. Radiosonde Surface Observation Instrumentation System (RSOIS) and Precision Digital Barometer (PDB) – These components are used to collect the surface observation for the sounding and to perform the baseline check of the radiosonde.
2. Telemetry Receiving System (TRS) - This equipment is used to track and receive the data from the Global Positioning System (GPS) radiosonde.
3. Signal Processing System (SPS) – The SPS (manufactured by Sippican Inc.) is used to translate the received telemetry signal from the radiosonde into usable meteorological and GPS information. The SPS maintenance port was also connected and available for use with the Offline Built In Test (OBIT) utility suite software.

4. RRS Workstation - The workstation is a standard Personnel Computer (PC) that has been equipped with an Equinox serial port expansion card. The PC is the host platform for the Radiosonde Workstation Software (RWS). The PC and expansion card are used to collect the data from the attached subsystems. The operating system on the PC is Windows XP Professional.
5. Global Position Satellite (GPS) Radiosondes – The GPS radiosonde (manufactured by Sippican Inc.) is used to telemeter the measured pressure, temperature, relative humidity, and GPS winds data to the TRS ground equipment.
6. GPS Repeater – The GPS repeater is used during baseline to verify performance of the GPS portion of the radiosonde.

2.2 Software

Radiosonde Workstation Software (RWS) – The RWS resides on the RRS workstation and it is used to control and/or process the data from the subsystems which are attached to the workstation. The RWS was developed by the NWS and QSS Group Inc. The RWS Versions 1.0.4.0 and 1.0.4.1 were tested. The test began with version 1.0.4.0., and was completed with 1.0.4.1. This change in software version was scheduled as part of the test to evaluate the upgrade process.

3.0 Test Objectives

The purpose of the ST Phase II was to demonstrate the RRS is fully functional from an operational perspective, can be successfully fielded, and will meet the reliability requirements as set by the legacy system. To determine if the test objectives are being met the following areas were evaluated:

3.1 Assessment of Workstation Training

In order to successfully field the RRS the field staff must be sufficiently trained to begin taking RRS upper air soundings immediately after the system installation is complete. To facilitate this, the field sites will be provided with the RRS training material 90 days in advance of installing the RRS at their station. This material was designed to provide field personnel with an introduction to the system and working knowledge of system software. During ST II this training process was evaluated.

3.2 Assessment of Supplemental Operator Familiarization

During deployment of the RRS, the installation team will conduct Supplemental Operator Familiarization (SOF) for the station personnel. The familiarization process will provide the field personnel with a review of the RWS workstation training, and more importantly, it will provide them with an opportunity to get RRS hands-on training under supervision of experienced personnel. To assess this process the Supplemental Operator Familiarization was conducted as part of ST II.

3.3 Demonstration of 24/7 Upper Air Operations

It is essential that the RRS be capable of operating in a 24/7 mode with system/flight performance similar to or better than MicroART. To assess this, the system was used in an operational manner for the duration of the test. During the live flights all features and functions of the RRS were exercised as if it were being used operationally to collect and disseminate data. For the duration of the test operational synoptic flights were conducted every 12 hours. The primary purpose of these flights was to assess the RSS performance against the performance measures established for the legacy system. Special asynoptic flights were also conducted to simulate special cases, which occur operationally but may not occur naturally during the synoptic soundings. To maintain the 24/7 mode of operations without a degradation of services, field personnel will need to have the ability to upgrade the RWS software without an adverse impact on operations. Therefore as part of demonstrating the systems ability to operate in a 24/7 mode, the RWS software was upgraded during the test. Lastly, being able to operate in a 24/7 mode means the system must be supported by the existing NWS logistics network and maintainable by the local maintenance staff. Therefore, even though there was no specific evaluation of the maintenance aspects of the system, the local maintenance staffs provide support and document problems using the existing logistics network.

3.4 Assessment of Flight Characteristics

The assessment of flight characteristics covers a large range of activities, many of which were conducted by individuals outside the test bed at Caribou, Maine. To assess the flight characteristics it was essential that the system be in an operational setting and used in an operational manner. The flight characteristics assessed are as follows:

- a. Assessment of data quality and validation of end-to-end through-put of upper air products to NCEP.
- b. Assessment of data quality and validation of end-to-end through-put of upper air products to NCDC.
- c. Comparison of RRS Integrated Perceptible Water (IPW) with GPS IPW measurements.
- d. Assess the operational usability of RRS-generated data and products by a limited set of operational forecast applications and through comparisons with MicroART using RAOB¹.

3.5 Assessment of End-to-End Communications

The main purpose of the communications portion of the test was to demonstrate end-to-end through-put of all appropriate upper air products generated by the RWS and to provide government and non-government end users an opportunity to ingest and analyze the products. Prior to the test starting, a Technical Implementation Notice (TIN) was issued advising NWS customers about the test and soliciting their participation. Copies of the TINs issued for this test have been included in Appendix A for review.

¹ RAOB, the complete rawinsonde observation program, is produced by Environmental Research Services, ©, 1994-2002.

4.0 Test Methodology

To effectively evaluate the RRS from an operational perspective the test methodology was to use the RRS as if it had been deployed for operational use. To facilitate this, volunteers from seven different field sites (including Caribou) were used as operators. As part of the test, participating field personnel were required to complete the RRS training program and successfully pass the RRS certification exam prior to traveling to Caribou. To avoid biasing the evaluation of the RRS training material, station personnel from Caribou who had previous hands-on experience with the RRS were not required to complete the training program at this time. For purposes of documenting problems and potential enhancements, the test team was directed to use the Test Track Pro web site. This web site is maintained by OPS23 for the purpose of entering and tracking System Issue Reports (SIR). As with ST 1, SIRs were generated for all problems associated with the RRS. This included, but was not limited to, problems associated with software, hardware, expendables, and RRS related documentation.

For the test, field personnel were divided into two groups; the first group arrived on 12 May and departed on 26 May. The second group arrived on 25 May and departed on 10 June. As part of the test, the Supplemental Operator Familiarization (SOF) was conducted for each group of field personnel. The SOF is the training, which the RRS deployment team will be providing to field personnel during system deployment. At completion of this hands-on training, field personnel were required to begin flight operations. At this point, field personnel were required to work operational upper air shifts for the duration of the test. During flight operations, test personnel were assigned as test monitors to maintain test records and to document any significant flight events that occurred. The test monitor did not assist or intervene with the flight unless there was a problem that required special documentation to support any SIRs generated. To aid in evaluating the training process the field personnel were required to complete a survey about the training process and material.

For each flight the test monitor was provided with a test case which outlined the system configuration and any special features or function to be tested. Appendix B is a completed example of one test case and an abstract listing of the remaining test cases conducted.

4.1 Test location

The ST Phase II was conducted at Caribou, Maine (referred to as KCAR, herein). One of the main reasons this site was selected was because the RRS had been preinstalled onsite for testing during the early stages of system development. The system was configured in the same manner in which the RRS will be deployed to the field for operational use. Factors that were considered in selecting Caribou as the ST II test site include:

- a. Office has two radomes; one housing the operational ART system and the other houses the TRS.
- b. Office has historically been the NWS upper air winter weather test site.
- c. Comparisons with the legacy MicroART system are possible. As a predetermined winter test site, many of the training, installation and checkout aspects along with field operations have been evaluated in preparation for ST Phase II.
- d. Site had been pre-configured and tested to be ready for RRS communications test.

4.2 Test setup and Configuration

The RRS was setup and configured identical to the way in which it will be used operationally. On May 11, 2005 the system was certified by OPS11 to be ready for ST II. For the transmission of the data the system was configured with the LAN connection as the primary mode of message transmission. Backup communications were configured with Eastern Region Headquarters (ERH) as the first dial-out, Southern Region Headquarters as the second dial-out and the local office was setup as the third dial out. It should be noted that the normal configuration for operations will have the first dial out as the local office. The system was configured with this deviation because there was a problem with the local LDAD/AWIPS. This problem prohibited successful transmission of the products. This problem was corrected and later retested.

4.3 Supplemental Operator Familiarization

The supplemental operator familiarization consisted of classroom review of critical components of the RWS training material followed by the hands-on familiarization. The classroom review was not intended as the main portion of the familiarization, but to reinforce key areas of the RRS observation. The classroom review was designed for the field sites that will be able to have a minimum of four observers available for a consecutive four-hour period. The classroom review consisted of a lecture with a question and answer session followed by Control Display Unit (CDU) familiarization. During the classroom session test personnel conducted a simulated flight using a laptop and projector. During the simulated flight, the test personnel reinforced the main sections of the flight and addressed questions the field personnel had about the installation and operation of the RRS. The CDU familiarization included a brief discussion of the main features of the CDU, followed by a demonstration of the CDU functions in the RRS dome. The CDU familiarization provided each observer with instructions on the finer points of controlling the TRS using the CDU.

The hands-on familiarization was designed to be conducted independent of the RRS classroom familiarization. The hands-on familiarization consisted of field personnel performing operational flights under the supervision of the test personnel. During the first three flights, test personnel provided value-added instructions about RRS flight operations and addressing any problems that occurred. After the first three flights, field personnel were required to continue working upper air shifts for the duration of the test but without the assistance of the test monitor. The test monitor did however remain available to document problems and assist with test activities that were considered outside the scope of normal operations. As an aid in evaluating the entire training process, field personnel were required to complete two surveys about the training processes and material. The results of the two surveys were used to refine the training material and familiarization processes.

4.4 Flight Test procedures

To evaluate the operational performance of the RRS when compared to the legacy system, test cases were developed in order to test a variety of operational configurations and/or operational scenarios. Prior to each flight, the test monitor was provided with a test case, which outlined the system configuration and any special features or functions to be used. To prevent skewing the synoptic flight performance results, purposely-induced second and third releases, as well as other flight performance effecting configurations were limited to

asynoptic flights. Before each flight the RRS was configured according to the prescribed test case following the procedures documented in Appendix B. The field personnel then conducted an operational flight using the predetermined test case scenario (i.e. transmit coded messages only in rework).

As a part of each flight, the field personnel were required to review and analyze the flight data. This included editing/marking of data and transmitting the coded messages. The editing and marking of data was left to the discretion of the field personnel and only performed if they believed it was necessary. The field personnel reviewed the coded messages for errors prior to transmitting them according to the test case scenario. After the transmission of all the coded messages, the test personnel would verify the products were correctly stored in the AWIPS text database and could be properly displayed using the AWIPS D2D display. Additionally, the NCEP “Thanks” report would be checked to verify the coded messages had been received.

At the conclusion of the flight, field personnel were required to wrap-up the flight as if the system was operational. This included archiving the flight, zipping the archive files, and transmitting the zipped archive to NCDC. As with normal operations, field personnel also updated the MIRS form 10 after each flight. As a test support function, field personnel printed a standard packet of documents from RWS and used the RWS Capture program to capture and transmit all RWS flight files to NWSHQ for analysis and generation of flight statistics.

5.0 Test Results

The purpose of the ST Phase II was to demonstrate the RRS is fully functional from an operational perspective, can be successfully fielded, and will meet the reliability requirements as set by the legacy system. To determine this, the evaluation of the ST2 test results are discussed in the sections that follow under the topics of their related test objectives.

The evaluation of the RRS products was conducted by several groups in a near real time mode over the duration of the test. These groups included; NCEP, NCDC OPS22, OS7 and external NWS customers. During the ST2, personnel participating in the test were requested to document problems or other areas of concern using the Test Track Pro website to generate SIRs. This process was also used to recommend future enhancements to the system. On a weekly basis the test director held a Technical Review Group (TRG) meeting to discuss the test progress and disposition of the SIRs generated during the preceding week. In most cases the TRG would review each SIR and assign it a recommended number for “Priority” and “Impact”. The SIRs were then reviewed by the Configuration Control Board (CCB) for final disposition. The following is a list of the priority category numbers and their definition:

- 1 - Need immediate emergency fix
- 2 - Include in next maintenance release
- 3 - Include in future maintenance release
- 4 - Include in next major build
- 5 – Undetermined

The definitions associated with the assigned Impact numbers are as follows:

- 1 - Prevents successful observation; no workaround
- 2 - Prevents successful observation; reasonable workaround
- 3 - Less critical degradation of data
- 4 - Degradation of system capabilities; no data affect
- 5 - Minimal to no impact; nice to have

During the test the there were a total of 89 SIRs written. Appendix C contains a copy of the minutes as recorded and distributed for the TRG meetings held. These minutes summarize the SIRs and their TRG recommended disposition. Table 1 summarizes the number of SIRs issued in each category of priority and impact. In the table the column labeled NR indicates the TRG made No Recommendation in term of priority and impact.

| TRG Recommended Value | 1 | 2 | 3 | 4 | 5 | NR |
|--|---|----|----|----|----|----|
| Priority - Number of SIRs in each category | 6 | 51 | 15 | 1 | 14 | 2 |
| Impact - Number of SIRS in each category | 7 | 24 | 24 | 24 | 8 | 2 |

Table 1 Summary of SIRs by Priority and Impact

5.1 Evaluation of Workstation Training

The workstation training was developed to provide field personnel with enough working knowledge of the RRS to minimize the amount of hands-on training required at the time the RRS is deployed to their respective stations. For ST2 the workstation training materials were shipped to the offices of participating personnel in time for them to complete the course curriculum prior to arrival at Caribou. All participating personnel did complete this task on time. This process is similar to what is expected to occur during the deployment process, in the sense that station personnel were required to complete the workstation training without having an RRS system available to practice with. Upon receipt of the training material, the operators participating in ST2 were instructed to review the new RRS Handbook WSOH #10, RRS Software Training Guide and view the RRS Training DVD. They were also provided a version of software in order to perform simulated flights. The operators were then asked to successfully complete the RRS open book examination prior to arriving in Caribou, Maine.

At Caribou, field personnel were provided an opportunity to discuss the training process and material. They were also asked to complete a survey that was designed by OS7 to determine the strengths and weaknesses of the RRS training program. Overall, the training program was well received and most responses were positive. Most personnel expressed their opinion about how the training DVD was a good tool and provided an excellent overview of the RRS. Table 2 summarizes the training surveys for those areas, in which, the field personnel had questions or responded negatively about the training material and processes.

| Task | Document | Question | # Negative Responses |
|------|----------|----------|----------------------|
|------|----------|----------|----------------------|

| | | | |
|----------------------------------|--|--|---|
| 1. Pre-Release Procedures | Radiosonde Prep Inst (App D WSOH-10) | Were handling instructions during preparation and prior to release adequate? | 1 |
| Comments: | <i>Any special instructions for transport to the release point?</i> | | |
| 2. Pre-Release Procedures | Instructions for use of the RRS Workstation | Were the different options within the TRS/Antenna Display explained with enough detail? “Using Search options without GPS”. | 1 |
| Comments: | <i>A simulated flight with this scenario would be very helpful to aid in training.</i> | | |
| 3. Launch Techniques | RRS Users Guide | Was using the RCDU covered in enough detail for normal operations? | 1 |
| Comments: | <i>Focus more on features available in the “Idle State”. (Track on/off, AFC on/off, dish slewing) Using the LCDU in the radome was very helpful. That way you can see how the dish reacts to commands.</i> | | |
| 4. Launch Techniques | RRS Users Guide | When no GPS is received – Was the procedure for manually moving the antenna and clicking the “Scan” button explained sufficiently? | 1 |
| Comments: | <i>A simulated flight with this scenario would be very helpful to aid in training.</i> | | |
| 5. In-Flight Procedures | RRS Users Guide | Were enough special in-flight problems presented with corrective actions recommended? | 2 |
| Comments: | <i>Can add more that would be nice. Define enough. Always room for more situations. Cover how to deal with “height change” check messages.</i> | | |
| 6. In-Flight Procedures | RRS Users Guide | Was the finer resolution for level selection explained along with the 20 hPa thickness requirement for begin/end missing data in the coded messages? | 1 |
| Comments: | <i>Recommend eliminating “missing 20 hPa”. Explain level selection criteria</i> | | |
| 7. Post-Flight Sequence | RRS Users Guide | Was the backup process explained sufficiently? | 1 |
| Comments: | <i>NONE</i> | | |
| 8. Troubleshooting | RRS Users Guide Appendix C | Was the OBIT software covered in enough detail in Appendix C of the RRS Users Guide? | 2 |
| Comments: | <i>Hands on training in this area should be included in the training session. Would like more hands on.</i> | | |

Table 2 Summary of Training Survey

In general, the training material was considered adequate. However, the survey suggests there may be a few areas that need additional work. From the survey (see Table 2), the responses to element 1 suggest a review of the radiosonde handling procedures for transporting the radiosonde to the release point may be necessary. The responses to elements 2, 4, and 5 suggest field personnel would like to have additional simulations or flights to rework which cover a larger variety of possible problems. Comments to elements 3, 7, and 8 suggests a review of the Launch Techniques, Post Flight Sequence and Troubleshooting sections of the of training documentation may be necessary. It also suggests these areas should be either added to or given more emphasis during the SOF. The comment to element 6 suggests there is lack of documentation covering changes made to the NWS level selection and coding practices. Throughout the course of the test there were numerous questions regarding these practices. This would indicate the NWS should create a comprehensive document covering the new level selection and coding practices. In addition, it is recommended this document cover the new solar radiation correction scheme used in the RRS.

5.2 Evaluation of Supplemental Operator Familiarization

The Supplemental Operator Familiarization (SOF) was not intended to be a training course, but rather a supplement to the workstation training material and process. It includes a four hour classroom session which is intended to be a refresher/review of the workstation training. It also provided an opportunity for field personnel to receive hands-on experience with the system under the supervision of a system expert (test team member).

Once field personnel arrived on station, they were given a quick overview of the ST2 test process and then the 4 hour classroom training session began. The classroom session covered those areas believed to be critical to making a successful observation. Included in the classroom session was a trip to the dome for hands-on experience with the CDU. The trip to the dome afforded field personnel the opportunity to actually see how the system responded to commands as entered on the CDU, thus furthering their understanding of how the system tracked the balloon. The final phase of the SOF was for each of the field personnel to participate in three actual soundings. During these soundings a member of the test team was available to provide assistance as needed and to answer questions or address problems as they occurred. During deployment, the function of the test team member will be carried out by a member of the deployment team from the Sterling Test facility.

Although the responses to the SOF were positive, it was apparent to the ST 2 test team it needed some refinement in certain areas to provide a more in-depth coverage of certain elements. At completion of three flights the field personnel participating in the test were asked to complete a survey about the SOF. Table 3 summarizes the results of the SOF surveys for those areas in which the field personnel had questions or responded negatively.

| Element # | Critical Element | Subset | Negative Responses |
|-----------|---------------------------------|---|--------------------|
| 1 | System Overview | CDU | 1 |
| | | Use receiver key to search or acquire signal | 3 |
| | | Increase/Decrease Volume | 2 |
| | | Take antenna out of suspend mode | 2 |
| 2 | Launch Techniques | Workstation – RCDU Inoperative or Inclement Weather | 2 |
| 3 | Post Flight Sequence | Backup | 3 |
| | | Export | 3 |
| 4 | Troubleshooting | OBIT Software – App C of RRS Users Guide | 1 |
| 5 | Certification of Site Readiness | MIC or Site Supervisor Signs Readiness Statement | 1 |

Table 3 Summary of Supplemental Operator Familiarization

The survey suggests that there are several problem areas associated with the hands-on aspect of the CDU training. This is apparent from the number of negative responses listed in Elements 1 and 2 of Table 3. During the CDU hands-on training, which took place in the dome, test personnel realized there were weaknesses in this aspect of the familiarization process. Test personnel agreed that this part of the familiarization process needed to be strengthened for deployment. It was suggested that the interactive CDU program developed by the training center be expanded to cover more TRS command functions. It should also have a mouse-over capability that provides a pop-up help feature describing the function of each of the buttons or menu items selected. In addition, test personnel (Sterling deployment team) will expand the hands-on CDU session to create scenarios that the field personnel will use to demonstrate working knowledge of the CDU. In regards to the negative responses in Element numbers 3 and 4 a review of the appropriate documentation covering these areas should be conducted to insure it adequately covers the material. Additionally, consideration should be given to expand the classroom session to cover these areas. With respect to the negative response for element 5, it is recommended an outline of the upper air certification process be included with the training material. This outline should describe how the familiarization training fits into the certification process.

5.3 Evaluation of 24/7 Upper Air Operations

It is essential that the RRS be capable of operating in a 24/7 mode with system/flight performance similar to or better than MicroART. To assess this, the system was used in an operational manner for the duration of the test. For the test, the normal synoptic soundings were conducted every 12 hours. The primary purpose of these flights was to assess the RRS performance against the performance measures established for the legacy system. Special asynoptic flights were also conducted to simulate special cases that occur operationally but may not occur naturally during the synoptic soundings. To maintain the 24/7 mode of operations without a degradation of services, field personnel will need to have the ability to upgrade the

RWS software without an adverse impact on operations. Therefore, as part of the demonstration of the systems ability to operate in a 24/7 mode, the RWS software was upgraded during the test. The software upgrade was successful. However, not all flights were imported automatically into the flights database. Flights that were not imported automatically were imported manually without problems. This problem was also documented during System Test I.

The flight performance section of the analysis consisted of comparing the valid RRS flight statistics collected through MIRS with the Legacy System Performance Measures (LSPM). The RRS was then scored based on how well it performed compared to the LSPM (Appendix D). The LSPM was compiled by OPS22 personnel supporting the test. This portion of the report summarizes the results found in the General System and System Performance section of LSPM. The remaining sections of the LSPM are discussed in their appropriate parts of this report.

The following is a discussion of the **General System** section of the LSPM. In the areas of **Hardware** and **System Failures** both were rated Good, compared to the LSPM. In both areas the system was marked down when the system did not recover properly from a test case which encompassed a simulated power failure. All flight data was lost during this test case. In terms of the hardware failure this type of problem is not likely to occur since the system will normally be on an Uninterruptible Power Supply (UPS). In terms of the System Failure (software problem) the loss of the flight data is serious. This problem is associated with the software/database shutting down in a non-graceful manner. This can occur anytime the system is not exited properly and is not limited to power failures. This same problem occurred during System Test I and was believed to have been corrected. Even though this is a serious problem, the probability of it occurring appears to be low.

The performance measure for the RRS **Start-up** was rated excellent compared to the LSPM; there were seven times the TRS failed to warm-up the first time. In spite of the multiple warm-up failures, the average warm-up time was approximately 3.4 minutes. In regards to the warm-up failures, site personnel using the materials and tools (including OBIT) provided was able to determine that the elevation index switch was loose and thus creating a failed warm-up condition. Station personnel were also able to document the problem appropriately using the existing logistic system (EMERS). There were no flights lost as a result of the troubleshooting and repair process. Once the index switch was tightened the warm-up failures did not reoccur. The RRS **In-flight** was rated Good, compared to the LSPM. Although there was some loss of PTU and winds data related to system malfunctions, it was less than that typically expected with the legacy system. In the area of **Ranging** the RRS rated a marginal performance compared to the LSPM. There were 2 flights with greater than 75% missing winds data and one flight with 6% missing winds data. The area of **Shutdown** was rated marginal, compared to the LSPM. There was only one system malfunction and three flights with missing PTU and winds.

The following section summarizes the LSPM sections under the category of **Flight Performance**. The flight performance section of the analysis consisted of comparing the valid RRS flight statistics collected through MIRS with the LSPM. The RRS radiosonde flight performance was then scored based on how well it performed compared to the LSPM (Appendix D). RRS flight performance exceeded the minimum criteria for acceptable field use when compared to the LSPM. Only one flight terminated early because of icing. Ninety-seven percent

of the flights terminated above 100 hPa, 95% terminated above 20 hPa, and 82% terminated above 10 hPa. There were no naturally occurring second or third releases. The average flight termination pressure was 21.8 millibars. This gave the system a rating of poor for ***Average Termination Pressure***. This poor average termination pressure resulted from the inclusion of a flight that terminated at 857 millibars for icing conditions. If this flight is removed from the statistics the average termination pressure becomes 9.3 millibars, which places the system in the category of excellent for average termination pressure. Since terminating for icing conditions is more a performance function of the balloon rather than the RRS or radiosonde, it suggests it would be appropriate to remove this flight from the performance measure statistics.

In the area of ***Rejects during baseline***, the rating was good. There were two radiosondes rejected during baseline; one for no signal and the other for damage to the humidity duct. The final area of evaluation under ***Flight Performance*** was ***Missed Flights***. For this performance measure the system rated a good as a result of the one missed flight, which occurred during the test case that simulated a power failure and all data were lost.

5.4 Flight Characteristics NCEP Analyses

The NCEP portion of the evaluation consisted of ingesting the RRS products into their atmospheric models to assess the quality and delivery of data. In addition, there was an actual intercomparison conducted in which the RRS radiosonde data and the data from Caribous' operational soundings were compared against the first guess output from the NCEP model. The operational radiosonde used at Caribou is the Sippican B2.

The test results for delivery of data to NCEP was equal to or better than the legacy system for products availability and timeliness of receipt. The frequency of RRS products received at NCEP was greater than 98%. The timeliness of arrival of the RRS products was between 5.1 to 7 minutes from the RRS Workstation to NCEP. For the quality of data, NCEP reported there were no flights that had more than 1% of the temperature levels rejected. This again is equal to or better than the legacy system. The results of the data quality and availability can be seen in the communications portions of the LSPM (Appendix D).

With respect to the comparison with the NCEP model, NCEP provided temperature and height difference data for the RRS and B2 radiosondes minus the model. These data differences were plotted with respects to the model. Appendix E contains a copy of all the plots generated for the intercomparison. Figures 1 and 2 below are samples of these plots. At this point it is important to note that the B2 Radiosonde data had the NCEP Radiation Correction (RADCOR) applied prior to analysis. Whereas the RRS radiosonde data was corrected on station using a newly developed radiation correction scheme that incorporates a correction factor based on type and amount of cloud cover.

In reviewing the entire plot series it will be noticed that below 20 millibars the temperature differences are in relatively good agreement between the RRS radiosonde and the operational B2 radiosonde with respect to the first guess model output. Or in other words the RRS and B2 radiosonde differ from the model by about the same order of magnitude and are biased in the same direction. Figure 1 is a temperature difference plot for 850 millibars illustrating this

relationship. This is also supported by the fact that the geopotential heights for both radiosondes differ from the model by about the same order of magnitude and direction. This height comparison is apparent in Figure 2.

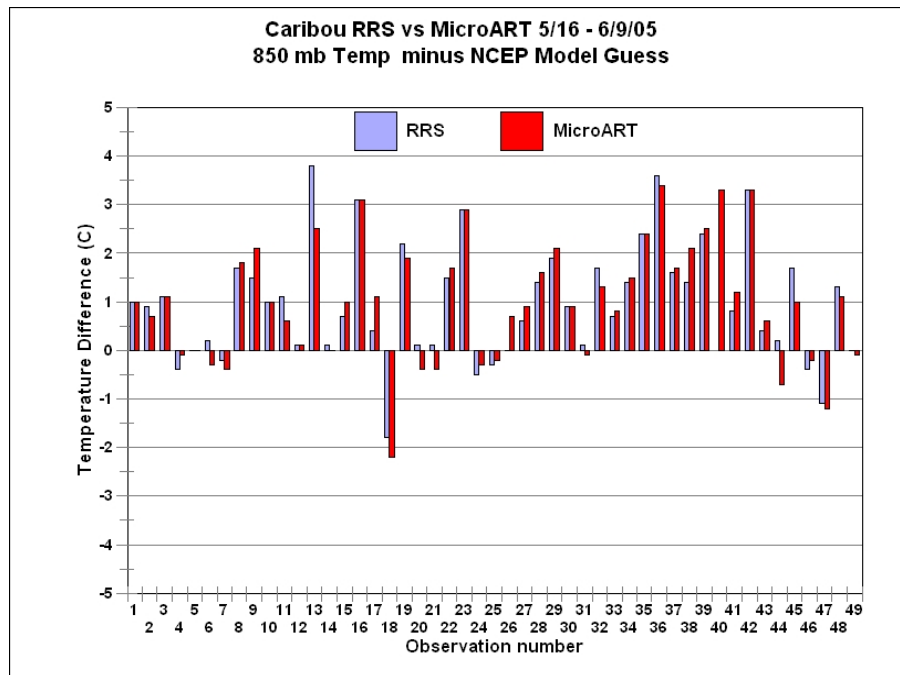


Figure 1 Plot of 850 Millibar Temperature Differences.

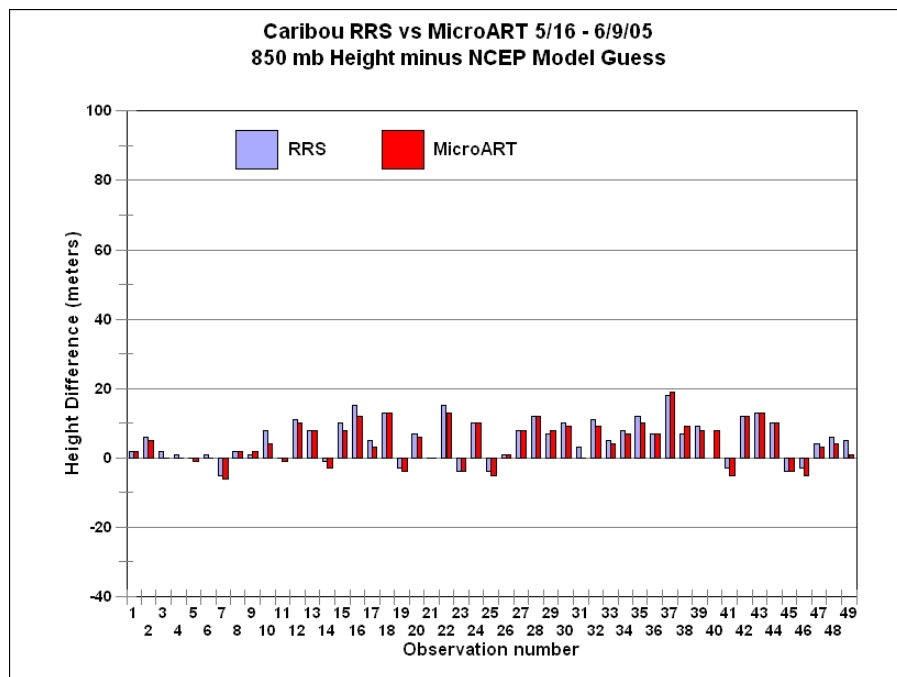


Figure 2 Plot of 850 Millibar Height Differences.

At or about 20 millibars, this relationship begins to change with the RRS radiosonde being generally warmer than the model and the B2 radiosonde becoming colder. This is illustrated in Figure 3, which is a plot of the 10 millibars temperature differences for the radiosondes minus the model. Again, the radiosonde geopotential height differences support this relationship even though they are biased from the model in the same direction. This bias in the same directions is suspected to be an artifact of the equation used to calculate the geopotential height. This equation integrates the measured pressure, temperature, and relative humidity data to calculate a corresponding geopotential height for each measurement point as the balloon ascends. The inference is that both radiosondes were warmer than the model for enough of the flight to make the accumulative height calculations biased in the same direction with respect to the model. However, as indicated by Figure 4 the 20 millibar height differences were slightly less for the B2 radiosonde. This is suspected to be associated with the RRS temperatures being warmer at high altitudes.

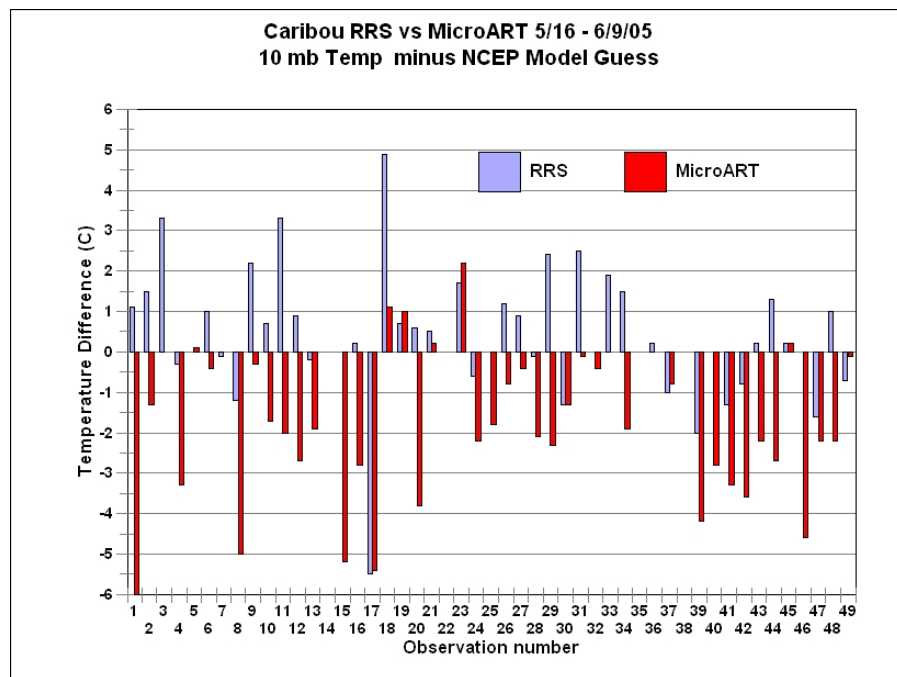


Figure 3 Plot of 10 Millibar Temperature Differences

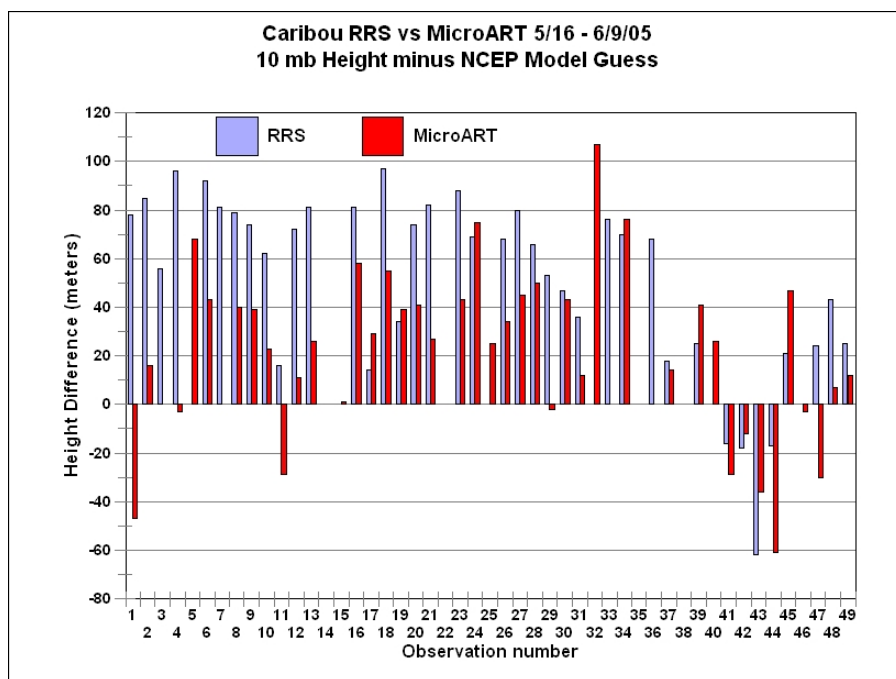


Figure 4 Plot of 10 Millibar Height Differences.

Although the results of the NCEP evaluation are not conclusive, there is some indication that the radiation correction algorithm for the RRS radiosonde may need to be studied in more detail to determine if there is a need to adjust the correction at high altitudes. The results of the NCEP evaluation are included in the *Radiosonde Performance* section of the LSPM. For the category *Percent of RAOBS with 10% or more temperature levels rejected by NCEP* the system rated excellent indicating there were no soundings with high temperature rejects.

5.5 Flight Characteristics NCDC Analyses

The NCDC portion of the analysis consisted of importing the RRS Archive flight data transmitted after each flight into their archival system. The data was evaluated in terms of availability and quality. For data availability the performance was good to excellent. To evaluate the quality of the data NCDC generated their standard quality-control reports. The result of these reports indicated that the RRS archive data was poor to marginal for the amount of temperature and relative humidity errors detected. Whereas the amount of errors detected in the pressure, height, and wind data were rated good to excellent. With respect to the legacy system, temperature performance was marginal with NCDC flagging 2.66% of the temperature data as having errors. These errors are associated with excessive superadiabatic lapse rates, which are suspected to be related to jitter in the temperature data and the large number of levels being selected. The performance of the relative humidity data was poor with respect to the legacy system. It is suspected that these problems are inherent in the sensor design. Since the RRS radiosonde and the B2 use the same sensor technology the reason for the poor performance with respect to the B2 should be studied. The results of the NCDC evaluation are summarized in the Radiosonde Performance section of the LSPM Appendix D.

5.6 Flight Characteristics GPS-IPW Comparisons

Throughout ST2, data was collected from the GPS Integrated Precipitable Water (IPW) sensor located at the WFO Caribou, ME. The data collected was then compared to the precipitable water calculated from the RRS and MicroART coded messages. RAOB was used for these calculations. The GPS IPW measurements were near real time measurements made every 15 minutes. For this comparison the time assigned to radiosonde IPW measurement was the UTC time of the observation. Figure 5 is a sample plot for this intercomparison. As the plot indicates, there is an apparent bias between the RRS IPW and the GPS IPW, with the RRS measurements being dryer. It will also be noted, although not a point of discussion for this section of the report, the RRS is also dryer than the MircoART B2 radiosonde. Appendix F contains all the intercomparison plots for this data set. In reviewing the plots in Appendix F it will be noted, with few exceptions, the RRS IPW remained dryer than the GPS IPW for the entire test series.

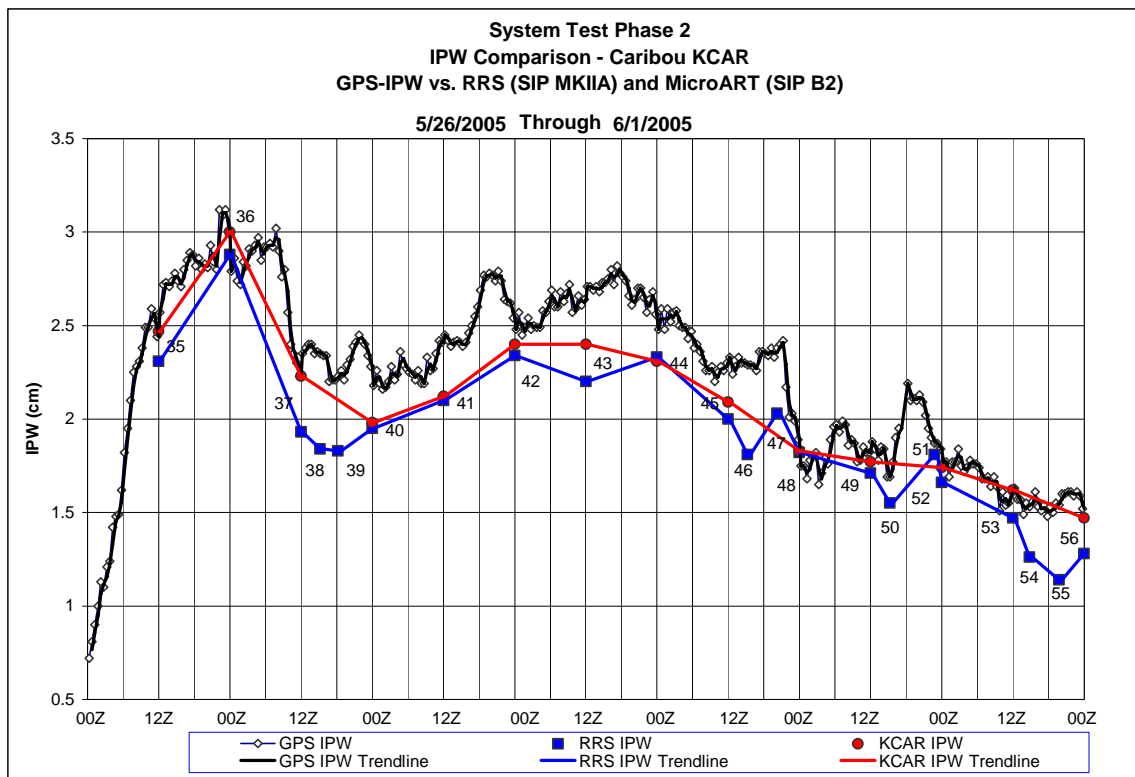


Figure 5 Plot Integrated Precipitable Water Data

When the data set is examined statistically the bias identified in the discussion above becomes even more apparent. Figure 6 is a scatter plot of the GPS IPW measurements versus those calculated from the RRS coded messages. Figure 7 is the histogram of the differences between those same two data sets. The differences were calculated for the GPS IPW measurement closest to the UTC time of the observation.

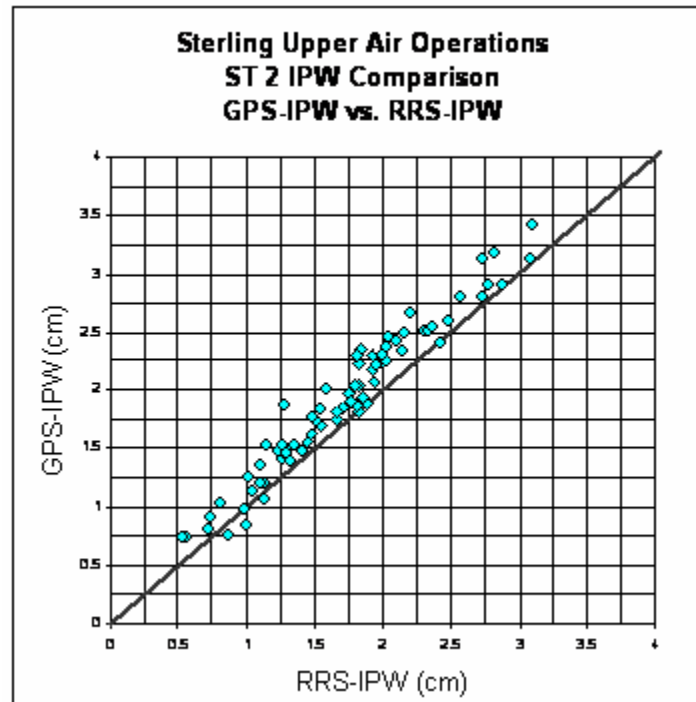


Figure 6 Scatter plot of GPS IPW versus RRS IPW

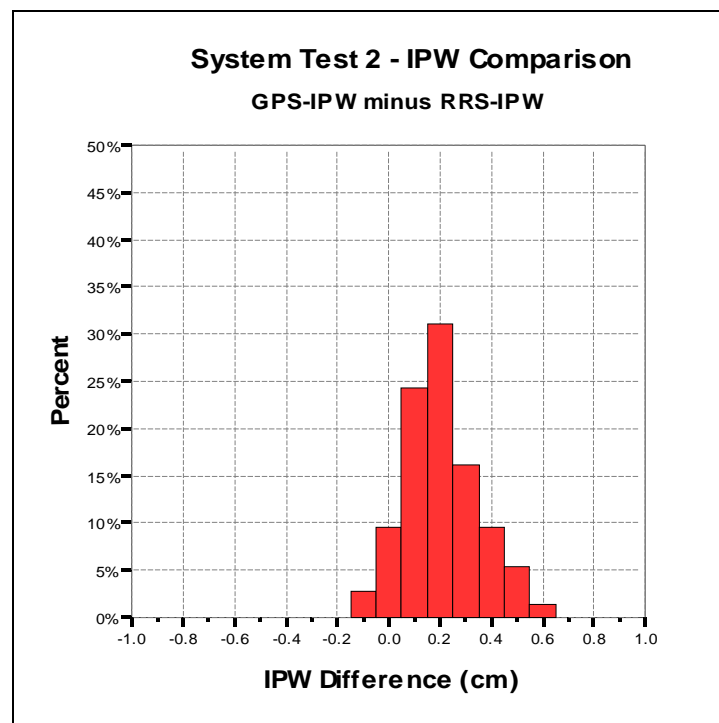


Figure 7 Histogram of differences GPS IPW minus RRS IPW

For the data set used to calculate the differences between the GPS IPW and RRS IPW, the GPS-IPW ranged from a maximum of 3.20 cm to a minimum of 0.74 cm, with a mean of 2.00 cm. While the RRS IPW ranged from a maximum of 3.08 cm and a minimum of 0.63 cm with a mean of 1.79 cm. Table 4 below illustrates these statistics.

| | Average (cm) | Maximum (cm) | Minimum (cm) |
|--------------------------------|--------------|--------------|--------------|
| GPS-IPW | 2.00 | 3.20 | 0.74 |
| RRS IPW | 1.79 | 3.08 | 0.53 |
| IPW Difference (GPS minus RRS) | 0.22 | 0.84 | -0.12 |

Table 4 Synoptic IPW Comparison Statistics

Since the relative humidity sensor used in the RRS radiosonde is similar in design to the one used operationally in the B2 radiosonde this dry bias is not expected to have a large impact on the overall performance of the upper air network. The dry bias with respect to the B2 radiosonde is also discussed in the RRS/MicroART Meteorological Comparison Section 5.7 of this report.

5.7 Flight Characteristics RRS/MicroART Meteorological Comparisons

The RRS meteorological intercomparison with MicroART consisted of analyzing the flight data from a meteorological/operational perspective. For this evaluation the RRS radiosonde data was compared against the data from the Caribou operational soundings that were coincident to the synoptic soundings made for ST2. The ST2 synoptic soundings were released from the same point as the operational soundings and were generally within 15 minutes of one another. The first half of the comparison consisted of comparing the thermodynamic data and calculated parameters. The second consisted of comparing the performance of the winds data. In reviewing this section of the document it is important that the reader is aware of two facts; first the B2 data is not corrected for solar radiation effects, while the RRS data is. The second is to remind the reader this was an operational assessment in which field personnel used their discretion as to whether the flight data was valid and if it was not, they were to smooth or delete the suspect data. This is a standard practice currently at Caribou and all other operational upper air sites.

For the comparison of the thermodynamic data and calculated parameters, the WMO coded messages from each system were used to generate a Skew-T Log P diagram and to calculate various meteorological parameters. Using RAOB, the WMO coded messages were plotted on the same Skew-T Log P diagram. Test personnel then completed a visual comparison of the profiles. For this comparison, perfect agreement was not critical; instead the profiles were analyzed for areas in which there were recurring differences that would allow the RRS radiosonde data to be characterized operationally with respects to the operational B2 data.

The comparison of the near surface and stratospheric temperature profiles required the most scrutiny, since the two systems differ in their data rate and level selection. The B2 and RRS near surface temperature and humidity profiles generally agreed, although the RRS profile had a larger amount of levels selected than the ART. It was also noticed, although not always evident, the ART temperature profiles appeared to lag behind the RRS. This faster response is desirable

<http://www.ua.nws.noaa.gov/RRS.htm>.

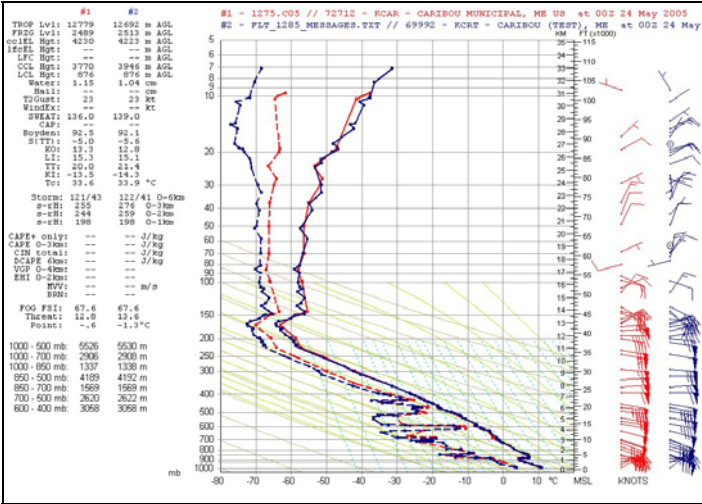


Figure 8 RAOB plot illustrating differences in structure

Although previously reported during other tests, field personnel noted the relative humidity data near the surface required frequent smoothing to remove a dry bias that existed immediately after balloon release. This dry bias is suspected to be associated with the radiosonde duct environment being different from ambient conditions. This same problem is also known to exist to some degree with the B2 radiosonde. When the RRS and B2 IPW data from this test are compared there is an apparent dry bias in the overall moisture measurements. This bias in the IPW may in part be associated with this problem. Figure 9 is a plot of the IPW data calculated for both systems.

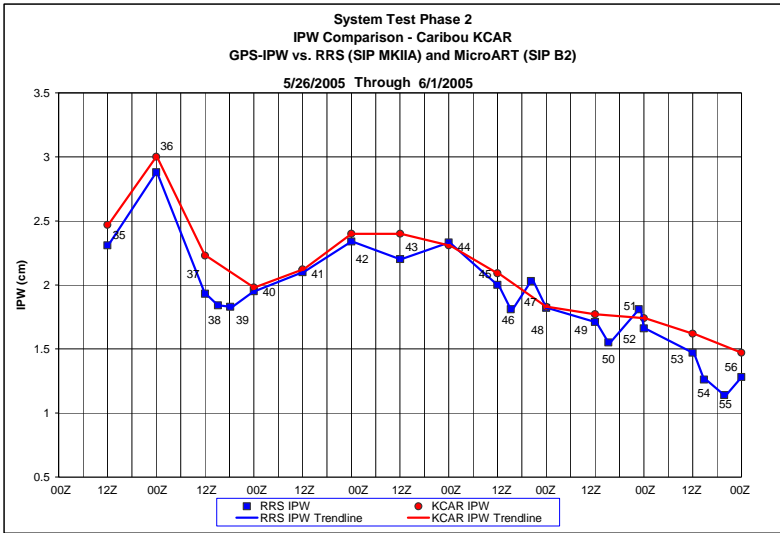


Figure 9 Plot of RRS IPW and Operational B2 Data

For a less subjective evaluation of the temperature and height data, a comparison of the data at

the standard pressure levels was conducted. For this comparison, a set of summary statistics were generated for the temperature and geopotential height differences at each of the standard pressure levels. Table 5 summarizes the temperature differences. As the table indicates the mean temperature difference between the two systems for 925, 850, and 700 mb is very small. This would tend to indicate good agreement between systems. The amount of variability for these three levels as indicated by the standard deviation would typically range from a plus or minus .38, .36 and .49 degrees for their respective levels. It should be noted that in this stratum one might expect a larger amount of variability due to the influences of clouds and weather.

For the levels 500 mb to 50 mb the mean difference indicates the RRS is generally colder. This is a desired effect since the B2 data is uncorrected for solar radiation. However the mean difference at 30 mb is near zero and would tend to indicate good temperature agreement at this level. Above 30 millibars the mean difference indicates a reversal from the desired difference. It will also be noted that the Standard deviation is quite large for 30 to 10 mb. This would indicate a large amount of variability between the temperature measurement made with the RRS and B2 radiosondes. Although it fits the general trend of the mean temperature difference, it is important to note the sample size at 7 mb is only two.

| | Temperature Difference Data (Degrees C) | | | | | MicroART B2 minus RRS |
|-----------------|---|---------|---------|---------|--------------------|--------------------------|
| Pressure Levels | # Samples | Maximum | Minimum | Average | Standard Deviation | Colder System on Average |
| 1000 | | | | | | |
| 925 | 47 | 0.72 | -1.74 | 0.02 | 0.38 | RRS Colder |
| 850 | 47 | 0.69 | -1.20 | -0.05 | 0.36 | MicroART B2 Colder |
| 700 | 47 | 0.73 | -1.44 | -0.06 | 0.49 | MicroART B2 Colder |
| 500 | 47 | 1.11 | -0.60 | 0.25 | 0.32 | RRS Colder |
| 400 | 47 | 0.79 | -0.42 | 0.39 | 0.26 | RRS Colder |
| 300 | 47 | 1.07 | 0.07 | 0.67 | 0.25 | RRS Colder |
| 250 | 47 | 2.04 | -0.96 | 0.76 | 0.42 | RRS Colder |
| 200 | 47 | 4.04 | -0.74 | 0.76 | 0.73 | RRS Colder |
| 150 | 47 | 1.49 | -0.83 | 0.56 | 0.55 | RRS Colder |
| 100 | 47 | 2.09 | -0.29 | 0.86 | 0.55 | RRS Colder |
| 70 | 47 | 1.55 | -1.56 | 0.68 | 0.66 | RRS Colder |
| 50 | 47 | 1.49 | -1.31 | 0.45 | 0.66 | RRS Colder |
| 30 | 47 | 1.89 | -1.96 | 0.05 | 0.85 | RRS Colder |
| 20 | 46 | 1.46 | -2.22 | -0.35 | 0.93 | MicroART B2 Colder |
| 10 | 36 | 1.20 | -6.36 | -1.56 | 1.78 | MicroART B2 Colder |
| 7 | 2 | -2.35 | -3.12 | -2.74 | 0.54 | MicroART B2 Colder |

Table 5: Summary of Temperature Differences for selected Standard Pressure Levels

In general there is an identifiable trend noticed in mean temperature differences. This becomes more apparent in Figure 10. From 925 to 700 millibars the mean difference is near zero indicating relatively good agreement. From 500 to 100 mb the mean difference is generally increasing, with the RRS being colder. Since the RRS is solar corrected this was the expected result.

From 100 to 30 mb the mean difference is decreasing and is near zero at 30 mb. From 30 to 10 mb the trend reverses and the bias becomes negative, indicating the B2 radiosonde is colder.

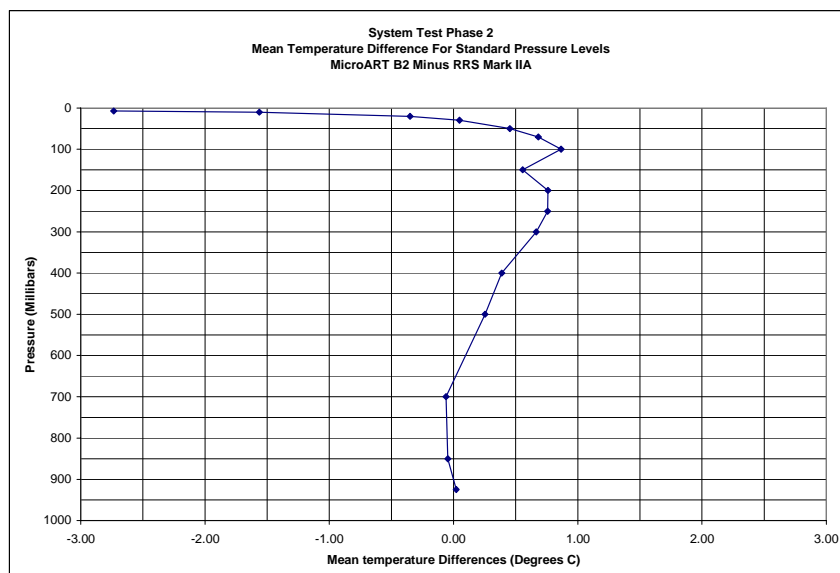


Figure 10: Plot of Mean Temperature Differences

The analysis of height data was conducted using geopotential heights. The RRS and the legacy MicroART system calculate the geopotential height using a standard c equation. (This equation integrates the measured (in order of their impact on the calculated height) pressure, temperature and relative humidity to calculate the height as the balloon ascends.) Table 6 is a statistical summary of the height differences for the heights of the standard pressure level.

| | Geopotential Height Difference (m) | | | | | MicroART B2 minus RRS |
|-----------------|------------------------------------|---------|---------|---------|--------------------|--------------------------|
| Pressure Levels | # Samples | Maximum | Minimum | Average | Standard Deviation | Higher System on Average |
| 1000 | | | | | | |
| 925 | 47 | 3.00 | -5.00 | -0.74 | 1.62 | RRS Higher |
| 850 | 47 | 2.00 | -4.00 | -0.81 | 1.30 | RRS Higher |
| 700 | 47 | 3.00 | -5.00 | -0.28 | 1.91 | RRS Higher |
| 500 | 47 | 12.00 | -19.00 | 0.60 | 4.99 | MicroART B2 Higher |
| 400 | 47 | 14.00 | -21.00 | 2.49 | 5.66 | MicroART B2 Higher |
| 300 | 47 | 20.00 | -17.00 | 7.19 | 6.71 | MicroART B2 Higher |
| 250 | 47 | 25.00 | -14.00 | 11.17 | 7.04 | MicroART B2 Higher |
| 200 | 47 | 31.00 | -12.00 | 16.02 | 7.94 | MicroART B2 Higher |
| 150 | 47 | 41.00 | -11.00 | 21.72 | 9.44 | MicroART B2 Higher |
| 100 | 47 | 57.00 | -12.00 | 30.38 | 12.26 | MicroART B2 Higher |
| 70 | 47 | 70.00 | -14.00 | 38.32 | 15.41 | MicroART B2 Higher |
| 50 | 47 | 80.00 | -20.00 | 43.74 | 18.43 | MicroART B2 Higher |
| 30 | 47 | 96.00 | -22.00 | 49.47 | 23.51 | MicroART B2 Higher |
| 20 | 46 | 111.00 | -32.00 | 49.28 | 30.23 | MicroART B2 Higher |
| 10 | 36 | 115.00 | -68.00 | 34.33 | 50.21 | MicroART B2 Higher |
| 7 | 2 | -43.00 | -67.00 | -55.00 | 16.97 | RRS Higher |

Table 6: Summary of Height Differences for Selected Standard Pressure Levels

From the table, the mean height differences indicate generally good agreement in the calculated

height data. For levels 925 to 500 mb there is a mean difference of less than a meter between the two systems. From 500 to 30 mb the mean height differences increases from 0.6 meters at 500 mb to 49.47 meters at 30 mb, with the B2 MicroART data having higher heights. This increasing trend in the mean height difference was expected and it correctly represents the temperature/height relationship in the geopotential height calculation. Then from 30 to 7 mb this increasing trend in the mean height differences reversed. Again the reader should note the sample size at 7 millibars is only two.

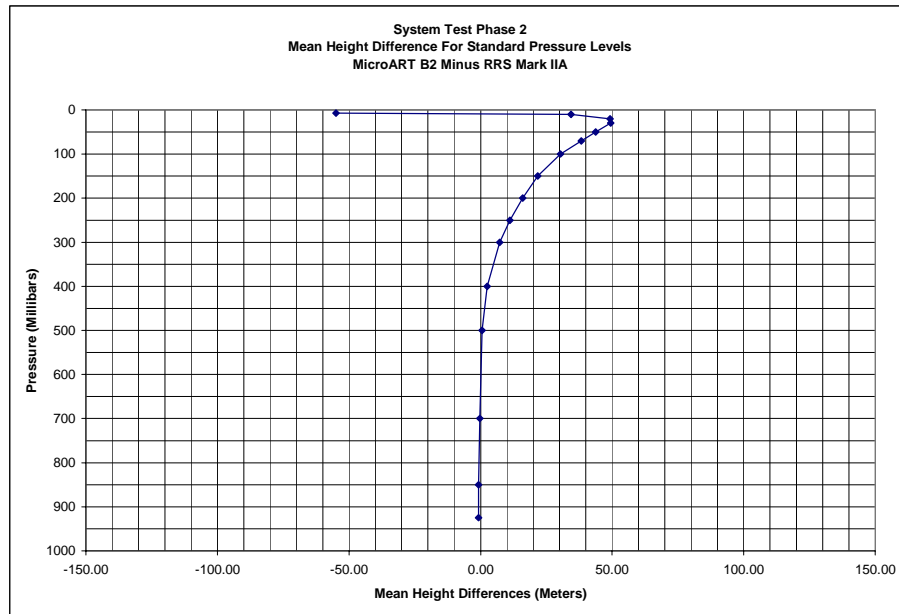


Figure 11: Plot of Mean Height Differences

The calculated parameters comparison had mixed results. Table 7 is a summary of this comparison. Each parameter listed in the table was calculated using RAOB. Using the RAOB outputs, the difference between the MicroART B2 and RRS data sets were calculated. This information was used to generate the statistics listed in the table below. Although the mean height differences for the Tropopause, Freezing level, Level of Free Convection (LFC), Convective Condensation Level (CCL), and Lifted Condensation Level (LCL) were relatively small, the range in height differences was quite significant. The largest difference seen was 2846 meters for the CCL. It is suspected this large range of differences in height is due to the difference between the MicroART and RRS level selection techniques; RRS selects significantly more levels than MicroART by design. For the thickness indices there is good agreement between MicroART and RRS. This corresponds correctly with relatively small mean height differences discussed above. A flight-by-flight comparison of the information presented here can be found at <http://www.ua.nws.noaa.gov/RRS.htm>.

| | Mean | Minimum | Maximum | Standard |
|--|------|---------|---------|----------|
|--|------|---------|---------|----------|

| | Difference: | Difference: | Difference: | Deviation: |
|------------------------------------|-------------|-------------|-------------|------------|
| Tropopause Level (m AGL) | 68.15 | -358 | 451 | 161.65 |
| Freezing Level (m AGL) | 4.90 | -559 | 722 | 178.98 |
| LFC Height (m AGL) | 30.47 | -514 | 422 | 117.50 |
| CCL Height (m AGL) | -149.23 | -2093 | 2846 | 655.38 |
| LCL Height (m AGL) | -26.73 | -256 | 124 | 68.61 |
| Thickness 1000 - 500 mb (m) | 2.15 | -16 | 11 | 5.27 |
| Thickness 1000 - 700 mb (m) | 0.75 | -4 | 6 | 2.25 |
| Thickness 1000 - 850 mb (m) | 0.17 | -3 | 3 | 1.42 |
| Thickness 850 - 500 mb (m) | 1.92 | -17 | 11 | 5.15 |
| Thickness 850 - 700 mb (m) | 0.46 | -4 | 4 | 1.62 |
| Thickness 700 - 500 mb (m) | 1.48 | -21 | 10 | 4.83 |
| Thickness 600 - 400 mb (m) | 4.75 | -8 | 21 | 4.44 |
| Wind Shear Below | 0.33 | -15 | 19 | 4.73 |
| Wind Shear Above | -3.13 | -30 | 56 | 11.03 |

Table 7: RRS vs. MicroART: Calculated Parameters Comparison Statistics

To compare the winds from an operational perspective, the WMO coded messages were used to analyze the wind profiles and other coded winds parameters. For this task, RAOB plots were used to conduct a visual comparison of the winds profile. Figure 12 is a sample of these plots. Additional RAOOB plots from this test can be found at <http://www.ua.nws.noaa.gov/RRS.htm>. Since this analysis is somewhat subjective it should be pointed out the RRS radiosondes were previously tested for wind accuracy by the NWS engineering group (OPS11) at Holloman Air Force Base and are believed to meet the NWS specifications.

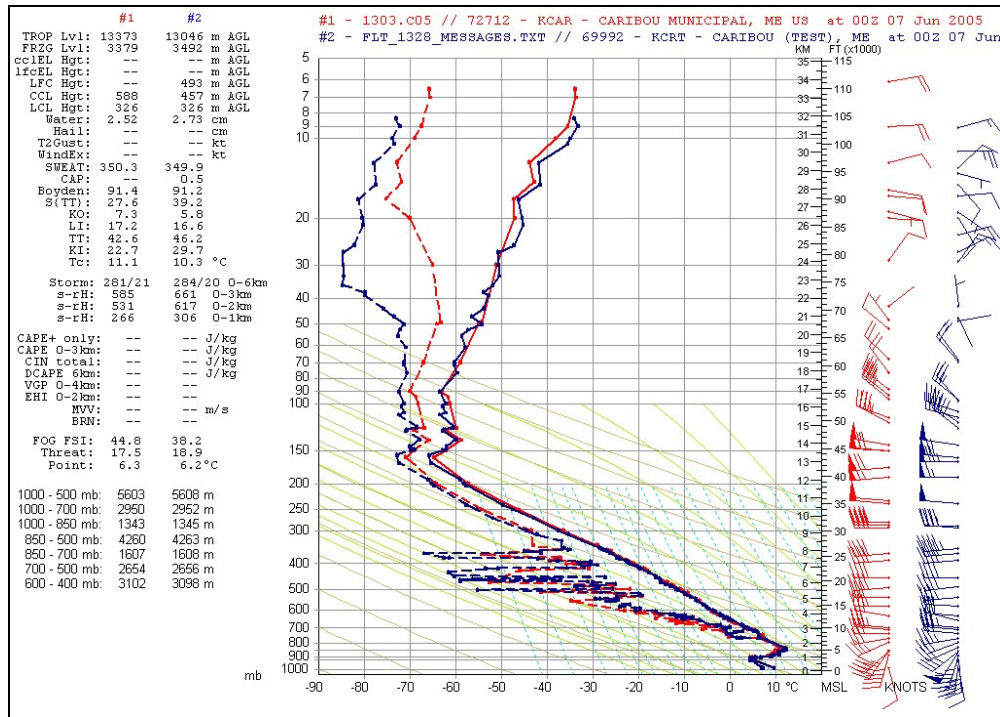


Figure 12: RAOB Plot Illustrating Good Agreement in Wind Structure

For this comparison, the data analyst looked for differences in the overall structure of the winds profiles and not the actual differences in the wind speed and direction. In general, the visual inspection of the profiles revealed very good agreement between the two systems. The Ekman spiral in the first two kilometers of the sounding agreed 74.5% of the time. In those cases in which the analyst determined they did not agree the winds were light and variable, or MicroART had missing winds. Figure 12 above illustrates this agreement in the boundary layer winds. With regards to the maximum wind reported, there were 17 instances in which RRS met the criteria for coding a max wind. For MicroART the max wind was only coded 14 times. This difference is believed to be associated with MicroART having missing data which prohibited the coding of a max wind. Figure 13 shows two scatter plots prepared for the reported max winds. As the scatter plot indicates there is considerable variability in both the reported maximum wind speed and direction.

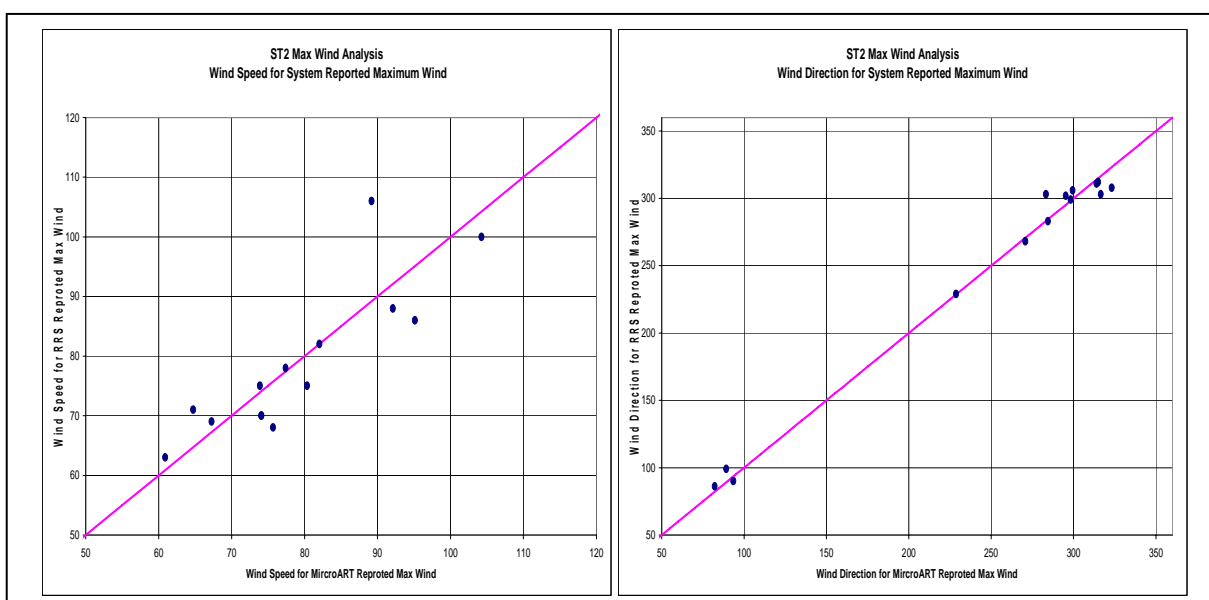


Figure 13. Plots for MicroART versus RRS Wind Direction and Speed

To perform a detailed study of the differences between the RRS and legacy systems data sets was outside the scope of ST2. However, the discussion above clearly indicates there may be significant differences between the two systems that are not yet understood. In order to fully understand these differences the NWS should conduct a functional intercomparison flight series to accurately characterize and understand these differences. In this case the functional intercomparison test would consist of conducting a series of flights in which an RRS radiosonde and the legacy B2 radiosondes are flown on the same balloon. This type of test generally covers at least three seasons and/or is conducted at different locations to capture performance differences during different climatologic conditions. This type of test is periodically conducted by WMO to characterize the differences between radiosondes used throughout the world.

5.8 Assessment of End-to-End Communications

The main purpose of the communications portion of the test was to demonstrate end-to-end through-put of all upper air products generated by the RWS. The communication test also provided government and non-government end users of upper air data an opportunity to ingest and analyze the updated products.

By design, the communication test evaluated all RWS modes of data dissemination. For each sounding, the mode of message transmission was predefined using the test cases listed in Appendix B. Using the appropriate test case, the test monitor preconfigured the RWS prior to each flight. When deployed operationally the primary mode of product dissemination will be the LAN, or the first dial-out if the LAN is not available. Regardless if the LAN is available or not the first dial-out will normally be configured for the local LDAD. The second and third dial-outs are designated as backups. The appropriate configuration for the backups has been predetermined. In all cases the second dial-out will be the sites respective regional headquarters LDAD. The third dial-out will be configured for the LDADs at one of the other regional headquarters.

Prior to the start of the test during system checkout, it was determined there was a problem with message transmission using the first dial-out. Therefore a non standard configuration was used for the test. For the test, the system was configured with the Eastern Region LDAD as the first dial-out; second dial-out was to southern region LDAD and the third dial-out set for the local LDAD. The problem with the dial-out to the local LDAD was believed to be related to the LDAD modem or the AWIPS configuration and not a problem with the RWS.

For the test, the flow of products through the network was consistent with current operations. To generalize the flow of products, the site sent the message to the designated AWIPS which forwarded the data to the Network Control Facility for satellite broadcast over NOAAPORT and to the NWSTG for world-wide distribution. During the test the test monitors verified through-put of all products by verifying their availability in AWIPS text database and in the D2D display.

In order for the products to be transmitted over the network, test headers were developed for each product. A Technical Implementation Notice (TIN) was used to advise data users of these headers and the impending test. The TIN included information regarding the test, test headers and an invitation for customers to participate in the test. Copies of the TINs issued for this test have been included in Appendix A. Table 8 below lists the headers used during the test.

| | | |
|--|----------------------------|---|
| AWIPS PIL | Individual Test WMO Header | Collective |
| CRTMANCRT | USUS41 KCRT | USUS05 KWBC |
| CRTSGLCRT | UMUS41 KCRT | UKUS50 KWBC and UGUS50 KWBC |
| CRTABVCRT | UFUS41 KCRT | ULUS05 KWBC, UEUS05 KWBC, ULUS50 KWBC and UEUS50 KWBC |
| CRTFZLCRT | UXUS41 KCRT | UXUS70 KWBC |
| BUFR Collectives: IUST41 KWBC, IUST42 KWBC and IUST46 KWBC | | |

Table 8: Definition of Headers Used for Test

There were six customers external to the NWS that played an active roll in the test and provided feedback. The following is a list of those organizations and their general comments:

1. FNMOC Fleet numerical – Point of contact: Russ Schwanz

General comments: There was no problem ingesting the large data set into their models. However, they did question the number of levels.

2. AFWA Global weather - Point of contact: Chris Imhof

General comments: AFWA tested the new formats, and found they will have to adjust their decoding software to allow a higher number of levels reported, but in order to make the correction they will need more information on the changes to WMO level selection criteria. The following questions were asked. Can you direct me to documentation on the WMO changes? When does the NWS plan to put the new level selection criteria into production? (The Air Force will need to plan for changes to the upper air observations collected.) Comments were forwarded to OS7 for investigation.

3. WSI – Point of contact: Paul Bayer

General comments: No problems encountered. However, they did say there were an unusual amount of levels. They also suggested the NWS send out or post on the web a schedule for deployment of the systems.

4. Unidata – Point of contact: Linda Miller

General Comments: Checked with their GEMPAK expert, Steve Chiswell, and GEMPAK has been decoding the Caribou test sound data with no problems.

5. FSL - Point of contact: Patty Miller

General Comments: Nearly all applications using RAOB data are having problems with the large number of levels. If the number of levels exceeds this maximum, software will break. Their questions specifically were: will the maximum number of significant temperature levels always be 150 or less, and will the max number of wind levels always be less than or equal to 75? Comments were forwarded to OS7 for investigation.

6. Environmental Research Services (ERS) - Point of contact (570) 491-4689

General comments: ERS had to adjust their data analysis program (RAOB) to accommodate the

large number of levels. This was actually coordinated prior to the test starting.

With respect to the utility of the data on the Caribou AWIPS, the products were available in text database in all cases in a timely manner. However, in regards to the D2D display it was noticed the soundings were being truncated when plotted on the Skew-T diagram. This problem was reported to HQ personnel, and later determined to be associated with the buffer code. An investigation conducted at NWS HQ isolated the problem. It was determined the NWS Telecommunication Gateway (NWSTG) process used to generate the buffer data could not handle the large number of levels generated by RWS.

To assess product availability throughout the network the “Product Availability Monitoring System” (PAMS) was used. PAMS is a tool developed by the Office of Operational Systems of the NWS to quantify the effectiveness of the AWIPS communication networks in delivering weather-related products from data sources to field sites, from field sites to the AWIPS Network Control Center for unlinking over the Satellite Broadcast Network (SBN), and to the NWSTG for further distribution to users.

Except in those test cases that required a product to be sent late or missed totally, the PAMS reports indicated all products were successfully transmitted in a manner equal to or better than the legacy MicroART system. With respect to Legacy System Performance Measures (LSPM) the communication portion of the test was rated Excellent in four out of six categories. In the remaining two categories the system rated good. To review the LSPM see Appendix D.

Even though PAMS indicated there was good through-put of the data there was a serious problem associated with the dial out mode of operation. During the test it was discovered that when the RSOIS was connected to the workstation using the fiber optic connection the dial-out mode of message transmission did not work properly. Connecting the RSOIS using the radio link appeared to alleviate the problem. The problem was analyzed by NWS HQ personnel during the test and was believed to be related to an excessive amount of interrupts received by the workstation from the RSOIS. To maintain the integrity of the test, for purposes of allowing the users to analyze the data, the products were resent using the LAN when the dial out failed. These failures were transparent to PAMS since the products were still sent in a timely manner. During the test, the RS232 serial cable connecting to the fiber optic modem was replaced with a shorter cable. This appeared to improve the performance of the dial-out. This problem and the problem associated with the local dial-out will need additional post-test analysis by appropriate HQ personnel.

6.0 Conclusion and Recommendations

The overall purpose of ST2 was to demonstrate if the RRS is fully functional from an operational perspective, can be successfully fielded, and will meet the reliability requirements as set by the legacy system. It is recognized that throughout ST2 and OAT the NWS will continue to implement improvements and investigate problems discussed in this report. Thus, with certain known deficiencies, the system performed well enough to proceed to OAT.

In terms of the individual objectives discussed in sections 3.1 to 3.5 of this report, the following

recommendations are made:

In the area of the “**Workstation Training**”, the material was considered adequate. However, the following is a list of recommendations for improving this process/material:

1. The NWS should review and update the training documents in those areas related to the handling and transporting the radiosonde to the release point.
2. The field should be provided with additional simulations or flights to rework which cover a larger variety of problems.
3. A review of the training documentation may be necessary in the following areas, system backup procedures, use of the OBIT software, and the CDU.
4. It was suggested that the interactive CDU program developed by the training center be expanded to cover more TRS command functions. It should also have a mouse-over capability which will provide a pop-up help feature describing the functions of each button or menu item. Once completed it should be provided to the RRS users as part of the training package.
5. The NWS HQ should develop a comprehensive document on the changes in the level selection criteria and message coding practices. This document should also cover the new radiation correction scheme and the changes to the practices for coding missing data.

With respect to the “**Supplemental Operator Familiarization (SOF)**” there are few areas which need updating. The following is a list of recommendations for updating the SOF.

1. The hands-on CDU training should be expanded to include a list of scenarios which the field personal can use to demonstrate working knowledge of the CDU.
2. The classroom session of the SOF should be updated to include, a discussion on backup/export operations of the RWS and an overview of the OBITS software.
3. A memo outlining the RRS certification process should be included in the training material. The outline should clarify the relationship between the certification process and the SOF.

One of the key objectives of the test was the “**Demonstration of 24/7 Upper Air Operations**”. In this respect the system performed very well. However there were a few problems identified which may need a more detailed study to help alleviate the potential for future problems. The following is a list of suggested action to be taken.

1. Request all RRS sites ensure the workstation is on an Uninterruptible Power Supply (UPS).
2. NWS should investigate why the winds were missing on enough flights to put the performance measures for “Ranging” in the marginal category.
3. NWS should investigate why there was enough missing PTU/winds data to result in a rating of marginal in the “Shut Down” category.

With respect the evaluation of the “**Flight Characteristics**” there are several areas of concern that were identified.

1. It is recommended the NWS investigate the possible data quality issues identified by NCDC and NCEP.

2. The intercomparison with MicroART and the analysis of the NCEP data suggests the new radiation correction scheme should be reviewed by the NWS for possible improvements.
3. In order to characterize the differences between the RRS and MicroART B2 radiosonde, the NWS should conduct a Functional Intercomparison flight series. This information is important to the meteorological and climatologic communities.

For the “**Assessment of end-to-end communications**” there appeared to be several misunderstandings on what the proper LDAD and AWIPS configuration requirements were. This suggests the NWS should conduct a review of the documents describing how to setup and configure the LDAD and AWIPS systems to receive the RRS products. With respect to the comments from the users, the following recommendations are made:

1. The NWS should prepare a detailed document describing all the changes having an impact on the upper air products distributed for public use. The users should also be made aware of where or how to obtain a copy of the document.
2. The NWS should publish a schedule/plan for the deployment of the RRS. The users should also be made aware of where or how to obtain a copy of the document.
3. In order for AWIPS to display the entire sounding in D2D display the NWS should correct those processes which convert the WMO coded messages into the buffer format.

Even though the test did identify some problems that should be addressed, the performance of the ground equipment and software was good to excellent. Legacy System Performance Measures had 28 areas in which the RRS was ranked, in 14 of those areas the system ranked excellent and in 10 areas it was ranked good. There were three areas where the system was rated as marginal, in two cases the marginal performance was related to the loss of winds and/or PTU data. The third resulted from NCDC reporting temperature errors associated with superadiabatic lapse rates. The one area where the system ranked poor was again related the data quality errors flagged by NCDC. In this case, the problem was related to the relative humidity data and calculated dew point depressions. Since those areas in which the system performed marginal to poor are primarily related to data quality the NWS should conduct a more detailed study of those areas to better understand the nature of the problems.

One of the best indicators of overall performance is the LSPM category of average termination pressure. In this category, excluding the one flight which terminated for premature balloon burst associated with icing conditions, the system ranked excellent with an average termination level of 9.3 millibars. Therefore, with the assumption the NWS will continue to address the potential problems discussed in this report, and upon successful completion of the Operational Acceptance Test, the NWS should proceed with the deployment of the RRS. The above recommendations should serve as a checklist of tasks that the NWS should look to complete as the deployment process begins.

Appendix A

System Test Phase II Test Report

TECHNICAL IMPLEMENTATION NOTICES

NOUS41 KWBC 021352
PNSWSH

TECHNICAL IMPLEMENTATION NOTICE 05-34
NATIONAL WEATHER SERVICE HEADQUARTERS WASHINGTON DC
955 AM EDT MON MAY 2 2005

TO: FAMILY OF SERVICES /FOS/ SUBSCRIBERS... NOAA WEATHER
WIRE SERVICE /NWWS/ SUBSCRIBERS... EMERGENCY MANAGERS
WEATHER INFORMATION NETWORK /EMWIN/ SUBSCRIBERS...
NOAAPORT SUBSCRIBERS... OTHER NATIONAL WEATHER SERVICE
/NWS/ CUSTOMERS AND PARTNERS... NWS EMPLOYEES

FROM: JOSEPH FACUNDO
CHIEF... OBSERVING SYSTEMS BRANCH
OFFICE OF OPERATIONAL SYSTEMS

SUBJECT: RADIOSONDE REPLACEMENT SYSTEM /RRS/ COMMUNICATIONS
TEST SCHEDULED TO START MAY 16 2005

NOTE: THE FOLLOWING CHANGES HAVE NO IMPACT ON NOAA WEATHER WIRE
SERVICE SUBSCRIBERS.

AS PART OF THE RADIOSONDE REPLACEMENT SYSTEM... A COMMUNICATIONS
TEST WILL TAKE PLACE BEGINNING WITH THE 12Z UPPER AIR SOUNDING ON
MAY 16 2005. THIS TEST WILL ORIGINATE AT THE CARIBOU... MAINE
WEATHER FORECAST OFFICE. THE TEST WILL LAST APPROXIMATELY 30 DAYS
AND WILL CONSIST OF DAILY MESSAGES TRANSMITTED DURING THE NORMAL
SYNOPTIC WINDOW FOR THE 00Z AND 12Z SOUNDINGS... AND AS NECESSARY...
AT ASYNOPTIC TIMES WHEN WEATHER CONDITIONS AND TEST REQUIREMENTS
WARRANT. THESE TEST MESSAGES WILL BE IN THE SAME FORMAT AS OPERATIONAL
MESSAGES BUT WILL HAVE DIFFERENT DATA DUE TO DIFFERENT UPPER AIR
CONDITIONS AND CODING PRACTICES AS EXPLAINED BELOW.

THE NWS IS INVITING CUSTOMERS OF UPPER AIR DATA COLLECTED FROM
RADIOSONDES... AS TRANSMITTED BY NOAAPORT OR VIA THE NWS
TELECOMMUNICATIONS GATEWAY /NWSTG/... TO EVALUATE THE USABILITY OF
MODIFIED PRODUCTS GENERATED FROM THE RRS. A TEST HEADER FOR
CARIBOU... MAINE... KCRT /STATION ID 69992/ HAS BEEN ESTABLISHED
FOR THE RRS. THE OFFICIAL HEADER OF THE CARIBOU OFFICE... KCAR
/STATION ID 72712/ WILL CONTINUE TO BE USED FOR TRANSMISSION OF
OFFICIAL PRODUCTS PRODUCED BY THE CURRENT SYSTEM.

MODIFICATIONS OF THESE PRODUCTS ARE A RESULT OF CHANGES MADE TO
THE WORLD METEOROLOGICAL ORGANIZATION /WMO/ LEVEL SELECTION
CRITERIA AND UPDATED CODING PRACTICES. ACTUAL MESSAGE FORMAT WILL
NOT CHANGE. THE BIGGEST IMPACT WILL BE TO THE TTBB AND TTDD WMO
MESSAGES. DUE TO AN INCREASE IN DATA RESOLUTION AND TIGHTER LEVEL
SELECTION CRITERIA... THESE TEST MESSAGES CAN BE SIGNIFICANTLY
LONGER. IN ADDITION... THE 31313 INDICATOR AND ASSOCIATED GROUPS
WILL BE INCLUDED IN ALL PARTS OF THE MESSAGE. FOR ADDITIONAL
INFORMATION REGARDING THESE MESSAGES... PLEASE REFERENCE THE
MANUAL ON CODES WMO-NO. 306... SECTION A.

WHEN THE INDIVIDUAL TEST KCRT RRS PRODUCTS ARE RECEIVED BY THE
NWSTG... THEY ARE PACKAGED WITH OPERATIONAL UPPER AIR PRODUCTS
INTO COLLECTIVE PRODUCTS AND CONVERTED INTO BUFR FORM. THESE
PRODUCTS ARE THEN BROADCAST OVER NOAAPORT. THE INDIVIDUAL...
COLLECTIVE... AND BUFR MESSAGES ARE ALSO TRANSMITTED FROM THE NWSTG
TO NWS CUSTOMERS OVER A VARIETY OF COMMUNICATION SERVICES.

THE FOLLOWING PRODUCTS WILL BE ISSUED DURING THE TEST:

INDIVIDUAL COLLECTIVE

| | | |
|-----------|-------------|------------------------------|
| PIL | WMO HEADER | WMO HEADER |
| CRTMANCRT | USUS41 KCRT | USUS05 KWBC |
| CRTSGLCRT | UMUS41 KCRT | UKUS50 KWBC AND UGUS50 KWBC |
| CRTABVCRT | UFUS41 KCRT | ULUS05 KWBC...UEUS05 KWBC... |
| | | ULUS50 KWBC AND UEUS50 KWBC |
| CRTFZLCRT | UXUS41 KCRT | UXUS70 KWBC |

BUFR COLLECTIVES: IUST41 KWBC...IUST42 KWBC AND IUST46 KWBC

BELOW ARE EXAMPLES OF INDIVIDUAL PRODUCTS ISSUED BY RRS:

UXUSII KSTA 180001
FZLSTA

RADAT 83145=

USUSII KSTA 180001
MANSTA

| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 69990 | TTAA | 68001 | 69990 | 99005 | 26427 | 15506 | 00127 | 25429 | 13507 |
| 92815 | 24456 | 27508 | 85551 | 18835 | 29022 | 70187 | 08426 | 29027 | 50589 |
| 06758 | 26039 | 40760 | 17164 | 27043 | 30970 | 30990 | 26536 | 25097 | 41786 |
| 26534 | 20244 | 52760 | 27029 | 15423 | 69558 | 25030 | 10661 | 64759 | 29522 |
| 88135 | 75358 | 24534 | 77999 | 31313 | 58708 | 82310 | 51515 | 10164 | 00051 |
| 10181 | 10194 | 27509 | 28525 | = | | | | | |

UMUSII KSTA 180001
SGLSTA

| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 69990 | TTBB | 68000 | 69990 | 00005 | 26427 | 11982 | 24212 | 22980 | 24211 |
| 33977 | 24839 | 44971 | 26250 | 55967 | 26656 | 66952 | 25857 | 77944 | 25656 |
| 88911 | 23244 | 99883 | 21650 | 11824 | 16821 | 22814 | 16232 | 33795 | 14413 |
| 44765 | 12026 | 55760 | 11408 | 66745 | 10219 | 77744 | 10236 | 88741 | 10039 |
| 99740 | 09812 | 11738 | 09609 | 22722 | 09025 | 33719 | 09450 | 44707 | 08243 |
| 55703 | 08219 | 66686 | 07849 | 77685 | 07650 | 88680 | 07042 | 99677 | 06420 |
| 11672 | 06018 | 22665 | 05620 | 33650 | 05031 | 44644 | 05257 | 55640 | 05057 |
| 66637 | 04657 | 77622 | 03056 | 88613 | 01824 | 99611 | 01614 | 11607 | 01411 |
| 22604 | 01221 | 33601 | 01211 | 44594 | 01026 | 55589 | 00428 | 66573 | 00923 |
| 77562 | 02310 | 88560 | 02306 | 99555 | 02123 | 11553 | 02326 | 22518 | 04756 |
| 33513 | 05157 | 44512 | 05159 | 55511 | 05159 | 66505 | 05960 | 77494 | 07356 |
| 88488 | 08160 | 99483 | 08561 | 11465 | 10556 | 22460 | 11157 | 33458 | 11159 |
| 44451 | 11959 | 55449 | 12157 | 66448 | 12158 | 77446 | 12362 | 88438 | 13165 |
| 99434 | 13764 | 11431 | 13960 | 22427 | 14761 | 33425 | 14759 | 44422 | 14773 |
| 55420 | 14761 | 66415 | 14960 | 77413 | 15359 | 88404 | 16758 | 99403 | 16963 |
| 11401 | 17165 | 22398 | 17362 | 33386 | 18965 | 44378 | 19758 | 55377 | 19966 |
| 66376 | 20159 | 77375 | 20158 | 88363 | 21565 | 99360 | 21563 | 11355 | 22366 |
| 22352 | 22763 | 33332 | 25965 | 44328 | 26391 | 55312 | 28591 | 66284 | 33789 |
| 77245 | 43186 | 88240 | 43986 | 99224 | 47564 | 11207 | 50961 | 22203 | 52160 |
| 33135 | 75358 | 44130 | 74358 | 55126 | 76158 | 66121 | 76558 | 77116 | 73758 |
| 88114 | 71158 | 99111 | 69558 | 11106 | 68959 | 22105 | 66159 | 33102 | 66559 |
| 31313 | 58708 | 82310 | 41414 | 79692 | 51515 | 10181 | = | | |

| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| PPBB | 68000 | 69990 | 90012 | 15506 | 21009 | 25008 | 90346 | 29009 | 29515 |
| 28523 | 90789 | 28022 | 28026 | 28529 | 91024 | 28530 | 28526 | 28533 | 916// |
| 28035 | 92059 | 26536 | 27042 | 26547 | 93057 | 26546 | 27538 | 28039 | 94024 |
| 25026 | 27024 | 26036 | 94568 | 25524 | 25528 | 23531 | 95012 | 26534 | 27032 |
| 29047 | = | | | | | | | | |

UFUSII KSTA 180001
ABVSTA

| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 69990 | TTCC | 68002 | 69990 | 70878 | 63961 | 28505 | 50088 | 59766 | 06509 |
| 30412 | 54782 | 06522 | 20674 | 49384 | 09529 | 88999 | 77999 | 31313 | 58708 |
| 82310 | 51515 | 10182 | = | | | | | | |

TTDD 6800/ 69990 11965 64160 22874 69559 33844 66360 44703
64161 55666 62562 66648 59562 77589 57564 88533 61165 99368
55182 11359 54782 22315 56382 33295 54583 44255 55782 55229
49184 66197 49384 77192 46985 88169 45185 99157 41986 11135
42986 22130 41187 31313 58708 82310=

PPDD 68000 69990 9569/ 29502 00000 96046 17007 03510 09016
96789 08012 11015 05512 97012 09018 08020 10516 97345 08018
06517 08021 976// 05527 98034 07019 05519 07024 98589 07027
10033 11028 99012 10526 11029 10521 99367 09027 10033 11021=

ANOTHER MESSAGE ON THIS RRS WILL BE TRANSMITTED AFTER THIS
COMMUNICATIONS TEST IS CONCLUDED.

IF YOU OR YOUR ORGANIZATION WISH TO PARTICIPATE IN THIS TEST BY
PROVIDING FEEDBACK... OR IF YOU HAVE ANY QUESTIONS ABOUT THESE
CHANGES... PLEASE CONTACT:

JAMES FITZGIBBON
NATIONAL WEATHER SERVICE
W/OPS22
1325 EAST WEST HIGHWAY
SILVER SPRING MARYLAND 20910
PHONE: 703-661-1243
E-MAIL: JAMES.FITZGIBBON@NOAA.GOV

OR

ANTHONY ROBINSON
NATIONAL WEATHER SERVICE
W/OS12
1325 EAST WEST HIGHWAY
SILVER SPRING MARYLAND 20910
PHONE: 301-713-1373 EXT. 165
E-MAIL: ANTHONY.ROBINSON@NOAA.GOV

THIS AND OTHER NWS TECHNICAL IMPLEMENTATION NOTICES ARE AVAILABLE
ONLINE AT /USE LOWER CASE LETTERS/:

[HTTP://WWW.NWS.NOAA.GOV/OM/NOTIF.HTM](http://WWW.NWS.NOAA.GOV/OM/NOTIF.HTM)

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NOUS41 KWBC 031604
PNSWSH

TECHNICAL IMPLEMENTATION NOTICE 05-41
NATIONAL WEATHER SERVICE HEADQUARTERS WASHINGTON DC
1200 PM EDT FRI JUN 2 2005

TO: FAMILY OF SERVICES /FOS/ SUBSCRIBERS... NOAA WEATHER
WIRE SERVICE /NWWS/ SUBSCRIBERS... EMERGENCY MANAGERS
WEATHER INFORMATION NETWORK /EMWIN/ SUBSCRIBERS...
NOAAPORT SUBSCRIBERS... OTHER NATIONAL WEATHER SERVICE
/NWS/ CUSTOMERS AND PARTNERS... NWS EMPLOYEES

FROM: JOSEPH FACUNDO
CHIEF... OBSERVING SYSTEMS BRANCH
OFFICE OF OPERATIONAL SYSTEMS

SUBJECT: RADIOSONDE REPLACEMENT SYSTEM /RRS/ COMMUNICATIONS
TEST SCHEDULED TO TERMINATE JUNE 9 2005

REFER TO: TECHNICAL IMPLEMENTATION NOTICE /TIN/ 05-34... DATED
MAY 2 2005... RADIOSONDE REPLACEMENT SYSTEM /RRS/
COMMUNICATIONS TEST SCHEDULED TO START MAY 16 2005

NOTE: THE FOLLOWING CHANGES HAVE NO IMPACT ON NOAA WEATHER
WIRE SERVICE SUBSCRIBERS.

THIS MESSAGE IS TO NOTIFY NWS CUSTOMERS OF THE EARLY COMPLETION
OF THE RADIOSONDE REPLACEMENT SYSTEM COMMUNICATIONS TEST. SINCE
THE TEST OBJECTIVES ARE NEARLY COMPLETED... NWS EXPECTS THE LAST
OFFICIAL TEST PRODUCTS TRANSMITTED WILL BE THOSE ASSOCIATED WITH
THE 12Z UPPER AIR SOUNDING ON JUNE 9 2005. THIS TEST WILL END ON
JUNE 9 2005 AFTER THE 12Z SOUNDING. THIS WILL BE THE LAST NOTICE
REGARDING THIS TEST.

IF YOU OR YOUR ORGANIZATION WISH TO PROVIDE FEEDBACK... OR IF YOU
HAVE ANY QUESTIONS ABOUT THE TEST OR TEST PRODUCTS... PLEASE
CONTACT:

JAMES FITZGIBBON
NATIONAL WEATHER SERVICE
W/OPS22
1325 EAST WEST HIGHWAY
SILVER SPRING MARYLAND 20910
PHONE: 207-492-0180... AFTER 10 JUNE AT 703-661-1243
E-MAIL: JAMES.FITZGIBBON@NOAA.GOV

THIS AND OTHER NWS TECHNICAL IMPLEMENTATION NOTICES ARE AVAILABLE
ONLINE AT /USE LOWER CASE LETTERS/:

HTTP: //WWW. NWS. NOAA. GOV/OM/NOTIF. HTM

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NNNN

Appendix B

System Test Phase II Test Report

Test Case Scenarios

System Test II Caribou, Maine

RRS Flight Schedule Explanation and Test Case Procedures

Flight release time – Most synoptic flights will be released on time. That is at the beginning of the synoptic window. A few select flights will have release times near the end of the synoptic window.

Example: releasing one hour prior to the synoptic hour (i.e. 2301 UTC for the 00 UTC), and releasing one hour after the synoptic hour (i.e. 0059 UTC for the 00 UTC). We will also release a radiosonde outside the the synoptic window. The expected result in most cases, unless directed otherwise, is a detected release time with in the synoptic window (i.e. 00 or 12 UTC).

Frequency – Each flight's frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.

Surface ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Basestation Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.

To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Basestation. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Basestation cable number is ASN S200-A4W2, P/N –S1470.

To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Basestation. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.

To restore the RSOIS connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Basestation. Reconnect the appropriate RSOIS cable to Equinox cable # 3. Also, reconnect the appropriate PDB cable.

Antenna position - The TRS antenna position will allow the operator to determine the most likely direction of travel (azimuth and elevation) for the radiosonde and adjust the TRS antenna off of the direction of travel. For instance, if the determined direction of travel is an azimuth of 090 the operator would move the antenna according to the test procedure off of that angle. During the TRS antenna position test, the observer will release the radiosonde and use the auto button on the RCDU. If the TRS doesn't lock on while the radiosonde is within sight, the user will use procedures identified in the HB10 and RRS User Guide to re-acquire the radiosonde.

Baseline event – Most flights will be made with a normal baseline event. This means that the radiosonde will be successfully baselined and flown on the first try. Some flights will require the user to simulate a 2nd or 3rd release. This requires that the operator baseline the radiosonde and use the RWS manual detect release button while the radiosonde remains on the ground. The flight will eventually terminate and the user will be asked if he/she would like a new release. The user should select yes. This will be done once for a 2nd release and twice for a 3rd release.

Some flights will require a user to reject a radiosonde or two. The rejected radiosonde baseline will include at least one radiosonde that has either physical or data anomalies. The radiosonde will be rejected according to the HB 10 and RRS User Guide. The baseline process will repeat with a new radiosonde. The rejected radiosonde test procedure may use a radiosonde already identified with anomalies to be used as the rejected radiosonde.

Transmission event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. If the procedure calls for a **1st Backup Dial**, the LAN (Ethernet) Connection will be removed from the back of the RRS PC. If the procedure calls for a **2nd Backup Dial**, the LAN (Ethernet) Connection will be removed from the back of the RRS PC and the RWS LDAD information 1st Phone Number will be changed to an invalid phone number. Although the coded messages will normally be transmitted during the live flight in some cases the coded messages will be transmitted from **post flight or rework only**. In most cases, the coded messages will be transmitted within 3 hours of release. Some flights will have messages transmitted after 3 hours from release but before 6 hours or after 6 hours.

Archive event - During ST II, as a norm the archive files will be collected and transmitted following procedures identified in HB 10 and RRS User Guide. In some cases the archive files will not be collected or sent until after the following flight. Other cases include resending the archive files, and sending an old archive file.

Case Specific Instructions

1. Familiarization flight – The test monitor should use the Familiarization procedures identified in the RRS Deployment Implementation Plan.

2. Normal flight – The RRS operator should conduct a normal synoptic flight without any assistance from the Test Monitor.

3. Dual w/ KCAR - Using the same balloon and a spreader bar, conduct a dual flight with the Legacy and RRS system radiosondes. Do not edit any data or induce any faults during this flight.

4. Skip a synoptic flight - During the synoptic window send a No Data Message prior to starting a in accordance with the RRS Users Guide. Ensure an ascension number is not used.

5. Release towards end of synoptic window – For 12Z flights the balloon should be released no earlier than 1230Z and no later than 1259Z. For the 00Z flights the balloon should be released no earlier than 0030Z and no later than 0059Z.

6. Release just before synoptic window – For a 12Z flight the user should release no earlier than 1045Z and no later than 1059Z. For a 00Z flight the user should release no earlier than 2245Z and no later than 2259Z.

7. Release just after synoptic window – For a 12Z flight the user should release no earlier than 1300Z and no later than 1315Z. For a 00Z flight the user should release no earlier than 0100Z and no later than 0115Z.

8. Perform a second release - This requires that the operator baseline the radiosonde and use the RWS manual detect release button while the radiosonde remains on the ground. The flight will eventually

terminate and the user will be asked if he/she would like a new release. The user should select yes. This will be done once for a 2nd release.

9. Perform a third release - This requires that the operator baseline the radiosonde and use the RWS manual detect release button while the radiosonde remains on the ground. The flight will eventually terminate and the user will be asked if he/she would like a new release. The user should select yes. This will be done twice for a 3rd release.

10. Reject one sonde at baseline - The radiosonde will be rejected according to the HB 10 and RRS User Guide. The baseline process will repeat with a new radiosonde. The user may use a radiosonde already identified with anomalies to be used as the rejected radiosonde. Ensure the same ascension number is used.

11. Reject two sondes at baseline - The radiosondes will be rejected according to the HB 10 and RRS User Guide. The baseline process will repeat with a new radiosonde. The user may use a radiosonde already identified with anomalies to be used as the rejected radiosonde. Ensure the same ascension number is used.

12. Reject a sonde at the release point – After successfully baselining a radiosonde and going to the release point, the user will be asked to simulate accidentally damaging the radiosonde and returning to the workstation to reject the radiosonde. Follow the RRS Users Guide and HB 10 for radiosonde rejection instructions.

13. Induce sensor failure during release – During the release sequence, intentionally induce a sensor failure during release by disconnecting the thermistor wire.

14. Leave RH sensor cap on – During radiosonde preparation, do not remove the RH sensor cap. Launch the radiosonde with the RH sensor cap still intact.

15. Leave thermistor cover on – During radiosonde preparation, do not remove the thermistor cover. Launch the radiosonde with the thermistor cover still intact.

16. Use a dereeler –A flight may require the operator to use a dereeler due to excessive surface wind or by direction of the Test Manager. This should be done in accordance with the FMH-3 and NWS Handbook #10.

17. TRS azimuth 180 degrees out during release – During release, the operator should move the antenna 180 degrees off of the angle the radiosonde is expected to travel. After release the observer should use the auto track button on the RCDU. If the TRS doesn't lock on while the radiosonde is within sight, the user will use procedures identified in the HB10 and RRS User Guide to re-acquire the radiosonde.

18. Leave flight alone – After release, return to the workstation and make sure the system is tracking and

the system is receiving data. Then leave the system alone for at least 2 hours. Return to the workstation and transmit the coded messages.

19. Transmit coded messages using 2nd backup dial – Disconnect the LAN (Ethernet) Connection from the back of the RRS PC and the change the RWS LDAD information 1st Phone Number to an invalid phone number.

20. Re-transmit coded messages from rework mode – After Closing a flight, open it and Rework and transmit all coded messages.

21. Transmit coded messages from rework only < 3 hours – During a flight, do no transmit any coded messages during live flight or in post-flight. Close the flight without transmitting coded messages and open the flight in Rework and then transmit all coded messages within 3 hours of release.

22. Transmit coded messages from rework only > 3 hours < 6 hours – During a flight, do no transmit any coded messages during live flight or in post-flight. Close the flight without transmitting coded messages and open the flight in Rework and then transmit all coded messages after 3 hours but before 6 hours of release.

23. Transmit coded messages from rework only > 6 hours after release – During a flight, do no transmit any coded messages during live flight or in post-flight. Close the flight without transmitting coded messages and open the flight in Rework and then transmit all coded messages at least 6 hours after release.

24. Change surface pressure and Cloud/WX group before 400hPa – Change the surface pressure and cloud/wx group before the flight reaches 400hpa in the Received PTU. This should be done in accordance with the RRS Users Guide.

25. Change surface pressure and Cloud/WX group after 400hPa – Change the surface pressure and cloud/wx group after the flight reaches 400hpa in the Received PTU. This should be done in accordance with the RRS Users Guide.

26. Change surface pressure and Cloud/WX group in rework mode – Open the flight in Rework Mode and change the surface pressure and cloud/wx group in accordance with the RRS Users Guide. Retransmit the coded messages.

27A. Skip transmission of archive data – Archive the flight but do not transmit the BUFR file.

27B. Transmit both archive data files – After the flight, transmit the BUFR files from this flight and the previous synoptic flight.

28. Transmit an old archive file – After a flight, simulate accidentally transmitting an old BUFR file.

29. Simulate a power failure and recovery – During an asynoptic flight, the power switch on the front of the Workstation DCE rack will be powered off momentarily. After which the observer will attempt to recover the flight and either transmit the recovered messages or attempt a second release following procedures identified in the HB 10 and RRS User Guide.

30. Reinstall RWS and restore data from backup - Follow the instructions in NWS EHB 9-904 RRS Administration Manual.

31. Update windows security – Prior to some flights the user will be instructed to update windows security patches. To do this, follow the instructions in NWS EHB 9-904 RRS Administration document page 2-4.

32. Install a new RWS software load and restore data from backup - Follow the instructions in NWS EHB 9-904 RRS Administration Manual.

33. Replace RWS PC – Prior to a flight the user may be instructed to replace RWS with a replacement PC. To do this, follow the instructions in NWS EHB 9-901 Radiosonde Replacement System (RRS) Workstation Subsystem (RWS) Organizational Level and NWS EHB 9-904 RRS Administration document.

| Test # 1 | Date: 16 May | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|--|-----------------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1676 | Fiber | Correctly | Normal | 1 st Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight / Familiarization | | | | | | |
| Scheduled for | | | Week 1 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p><u>Surface Ob equipment</u> - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables In arum 7 emit help from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p><u>1. Familiarization flight</u> – The test monitor should use the Familiarization procedures identified in the RRS Deployment Implementation Plan. Station personnel will assist the SDT during the Acceptance Test Procedures for familiarization flight instruction.</p> <p>Reference: <i>Implementation Plan Section: 8.0</i></p> | | | | | | | | | |
| <p><u>Transmission Event</u> - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 1st Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 4 | Date: 16 May | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-----------------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | 00Z On Time | 1678 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Synoptic Comparison Flight / Familiarization | | | | | | |
| Scheduled for | | | Week 1 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>1. Familiarization flight – The test monitor should use the Familiarization procedures identified in the RRS Deployment Implementation Plan. Station personnel will assist the SDT during the Acceptance Test Procedures for familiarization flight instruction.</p> <p>Reference: <i>Implementation Plan Section: 8.0</i></p> | | | | | | | | | |

| Test # 5 | Date: 17 May | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-----------------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1680 | Fiber | Correctly | Normal | 1 st Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight / Familiarization | | | | | | |
| Scheduled for | | | Week 1 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 1st Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>1. Familiarization flight – The test monitor should use the Familiarization procedures identified in the RRS Deployment Implementation Plan. Station personnel will assist the SDT during the Acceptance Test Procedures for familiarization flight instruction.</p> <p>Reference: <i>Implementation Plan Section: 8.0</i></p> | | | | | | | | | |

| | | | | | | | | | |
|---|--------------|----------------------------|---|-------------|-------------------------------------|-----------------------------|---------------------------|-------------------------------|--------------------------|
| Test # 7 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
| Release & Flight Scenario | | | 00Z On Time | 1682 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Synoptic Comparison Flight / Familiarization | | | | | | |
| Scheduled for | | | Week 1 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>1. Familiarization flight – The test monitor should use the Familiarization procedures identified in the RRS Deployment Implementation Plan. Station personnel will assist the SDT during the Acceptance Test Procedures for familiarization flight instruction.</p> <p>Reference: <i>Implementation Plan Section: 8.0</i></p> | | | | | | | | | |

| Test # 9 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1676 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Synoptic Comparison Flight / Familiarization | | | | | | |
| Scheduled for | | | Week 1 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario. To change RSOIS connection type , power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470. To change the surface observation equipment to ASOS , power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately. To restore the RSOIS and PDB connection to the RRS PC , power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable. Reference: <i>RRS User Guide: Section 5.3.1</i> | | | | | | | | | |
| Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director. Reference: <i>RRS User Guide: Chapter 8</i> | | | | | | | | | |
| Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario. To restore the Primary AWIPS connection , the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD. Reference: <i>RRS User Guide: Chapter 5.4 & 10</i> | | | | | | | | | |
| 1. Familiarization flight – The test monitor should use the Familiarization procedures identified in the RRS Deployment Implementation Plan. Station personnel will assist the SDT during the Acceptance Test Procedures for familiarization flight instruction. Reference: <i>Implementation Plan Section: 8.0</i> | | | | | | | | | |

| Test # 12 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | 00Z On Time | 1678 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Synoptic Comparison Flight / Familiarization | | | | | | |
| Scheduled for | | | Week 1 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario. To change RSOIS connection type , power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470. To change the surface observation equipment to ASOS , power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately. To restore the RSOIS and PDB connection to the RRS PC , power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable. Reference: <i>RRS User Guide: Section 5.3.1</i> | | | | | | | | | |
| Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director. Reference: <i>RRS User Guide: Chapter 8</i> | | | | | | | | | |
| Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario. To restore the Primary AWIPS connection , the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD. Reference: <i>RRS User Guide: Chapter 5.4 & 10</i> | | | | | | | | | |
| 1. Familiarization flight – The test monitor should use the Familiarization procedures identified in the RRS Deployment Implementation Plan. Station personnel will assist the SDT during the Acceptance Test Procedures for familiarization flight instruction. Reference: <i>Implementation Plan Section: 8.0</i> | | | | | | | | | |

| Test # 13 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1680 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Synoptic Comparison Flight | | | | | | |
| Scheduled for | | | Week 1 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 14 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | 00Z On Time | 1682 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Synoptic Comparison Flight | | | | | | |
| Scheduled for | | | Week 1 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 15 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|--|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z EOW | 1676 | Fiber | Correctly | Normal | 1 st Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight – Release near end of synoptic window | | | | | | |
| Scheduled for | | | Week 1 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 1st Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>5. Release towards end of synoptic window – For 12Z flights the balloon should be released no earlier than 1230Z and no later than 1259Z. For the 00Z flights the balloon should be released no earlier than 0030Z and no later than 0059Z. Reference: <i>WSOH-10: 6.2</i></p> | | | | | | | | | |

| Test # 18 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|--|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | 00Z EOW | 1678 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Synoptic Comparison Flight – Release near end of synoptic window | | | | | | |
| Scheduled for | | | Week 1 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>5. Release towards end of synoptic window – For 12Z flights the balloon should be released no earlier than 1230Z and no later than 1259Z. For the 00Z flights the balloon should be released no earlier than 0030Z and no later than 0059Z. Reference: <i>WSOH-10: 6.2</i></p> | | | | | | | | | |

| Test # 19 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|--|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1680 | Fiber | Correctly | Normal | 2 nd Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight – Xmit messages using 2 nd backup dial | | | | | | |
| Scheduled for | | | Week 1 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 2nd Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC and the RWS LDAD information 1st Phone Number will be changed to an invalid phone number.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 20 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|--|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 00Z On Time | 1682 | Fiber | Correctly | Normal | 2 nd Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight – Xmit messages using 2 nd backup dial | | | | | | |
| Scheduled for | | | Week 1 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario. To change RSOIS connection type , power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470. To change the surface observation equipment to ASOS , power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately. To restore the RSOIS and PDB connection to the RRS PC , power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable. Reference: <i>RRS User Guide: Section 5.3.1</i> | | | | | | | | | |
| Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director. Reference: <i>RRS User Guide: Chapter 8</i> | | | | | | | | | |
| Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario. To change to the 2nd Backup Dial , the LAN (Ethernet) Connection will be removed from the back of the RRS PC and the RWS LDAD information 1 st Phone Number will changed to an invalid phone number. Reference: <i>RRS User Guide: Chapter 5.4 & 10</i> | | | | | | | | | |

| Test # 21 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1676 | Fiber | Correctly | Normal | 1 st Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight – Update security profile from ISP per regional procedures prior to flight | | | | | | |
| Scheduled for | | | Week 1 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 1st Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>31. Update windows security – Prior to some flights the user will be instructed to update windows security patches. To do this, follow the instructions in NWS EHB 9-904 RRS Administration document.</p> <p>Reference: <i>NWS EHB 9-904 Section 2.1.1.m</i></p> | | | | | | | | | |

| Test # 22 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | 00Z On Time | 1678 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Synoptic Comparison Flight | | | | | | |
| Scheduled for | | | Week 1 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario. To change RSOIS connection type , power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470. To change the surface observation equipment to ASOS , power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately. To restore the RSOIS and PDB connection to the RRS PC , power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable. Reference: <i>RRS User Guide: Section 5.3.1</i> | | | | | | | | | |
| Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director. Reference: <i>RRS User Guide: Chapter 8</i> | | | | | | | | | |
| Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario. To restore the Primary AWIPS connection , the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD. Reference: <i>RRS User Guide: Chapter 5.4 & 10</i> | | | | | | | | | |

| Test # 2 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|--|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1676 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Asynoptic Flight | | | | | | |
| Scheduled for | | | Week 1 – Daytime | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario. | | | | | | | | | |
| To change RSOIS connection type , power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470. | | | | | | | | | |
| To change the surface observation equipment to ASOS , power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately. | | | | | | | | | |
| To restore the RSOIS and PDB connection to the RRS PC , power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable. | | | | | | | | | |
| Reference: <i>RRS User Guide: Section 5.3.1</i> | | | | | | | | | |
| Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director. | | | | | | | | | |
| Reference: <i>RRS User Guide: Chapter 8</i> | | | | | | | | | |
| Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario. | | | | | | | | | |
| To restore the Primary AWIPS connection , the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD. | | | | | | | | | |
| Reference: <i>RRS User Guide: Chapter 5.4 & 10</i> | | | | | | | | | |

| Test # 3 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|--|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1678 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Asynoptic Flight | | | | | | |
| Scheduled for | | | Week 1 – Nighttime | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p><u>Surface Ob equipment</u> - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p><u>Frequency</u> – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p><u>Transmission Event</u> - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 10 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|--|-------|---------------------|--|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1680 | Fiber | AZ 180 out | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Asynoptic Flight – Release with Azimuth 180 degrees off radiosonde | | | | | | |
| Scheduled for | | | Week 1 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p><u>Surface Ob equipment</u> - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p><u>Frequency</u> – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p><u>Transmission Event</u> - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p><u>17. TRS azimuth 180 degrees out during release</u> – During release, the operator should move the antenna 180 degrees off of the angle the radiosonde is expected to travel. After release the observer should use the auto track button on the RCDU. If the TRS doesn’t lock on while the radiosonde is within sight, the user will use procedures identified in the WSOH-10 and RRS User Guide to re-acquire the radiosonde.Reference: <i>RRS User Guide Section: 8.4 & E.3 WSOH-10 Section: 3.4.3 (RRS update)</i></p> | | | | | | | | | |

| Test # 11 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|--|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1682 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Asynoptic Flight – Retransmit Coded Messages from Rework mode | | | | | | |
| Scheduled for | | | Week 1 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p><u>Surface Ob equipment</u> - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p><u>Frequency</u> – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p><u>Transmission Event</u> - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p><u>20. Re-transmit coded messages from rework mode</u> – After closing a flight, open it and Rework and retransmit all coded messages.</p> <p>Reference: <i>RRS User Guide: Chapter 4</i></p> | | | | | | | | | |

| Test # 6 | Date: 17 May | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|--|-----------------|---------------------|---|------|----------------------------|---------------------|-------------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Aysnoptic | 1676 | Fiber | Correctly | 2 nd Release | Primary AWIPS | Normal |
| Description of Flight | | | Asynoptic Flight – Induce 2 nd release condition | | | | | | |
| Scheduled for | | | Week 1 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p><u>Surface Ob equipment</u> - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p><u>Frequency</u> – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p><u>Transmission Event</u> - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p><u>8. Perform a second release</u> - The operator should baseline the Ground Test radiosonde on a power supply and use the RWS manual release button while the radiosonde remains on the ground. The flight will eventually terminate and the user will be asked if they would like a new release. The user should select yes. A new radiosonde should then be prepared, and launched in accordance to the RRS User Guide and WSOH-10.</p> <p>Reference: <i>WSOH-10: Section 6.15.1.</i></p> | | | | | | | | | |

| Test # 8 | Date: 17 May | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-----------------|---------------------|---|------|----------------------------|---------------------|----------------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1678 | Fiber | Correctly | 3 rd Release | Primary AWIPS | Normal |
| Description of Flight | | | Asynoptic Flight – Induce 3 rd release condition | | | | | | |
| Scheduled for | | | Week 1 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>9. Perform a third release – The operator should baseline the Ground Test radiosonde on a power supply and use the RWS manual release button while the radiosonde remains on the ground. The flight will eventually terminate and the user will be asked if he/she would like a new release. The user should select yes. Repeat the process above again using a second Ground Test radiosonde. Then a new radiosonde should be prepared and launched in accordance to the RRS User Guide and WSOH-10.</p> <p>Reference: <i>WSOH-10: Section 6.15.2.</i></p> | | | | | | | | | |

| Test # 23 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1678 | Radio | Correctly | Normal | 1 st Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight | | | | | | |
| Scheduled for | | | Week 2 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: RRS User Guide: Section 5.3.1</p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: RRS User Guide: Chapter 8</p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 1st Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC.</p> <p>Reference: RRS User Guide: Chapter 5.4 & 10</p> | | | | | | | | | |

| Test # 26 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | 00Z On Time | 1680 | Radio | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Synoptic Comparison Flight | | | | | | |
| Scheduled for | | | Week 2 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 27 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|--|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1682 | Radio | Correctly | Normal | 2 nd Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight – Xmit Coded Messages using 2 nd Backup dial | | | | | | |
| Scheduled for | | | Week 2 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 2nd Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC and the RWS LDAD information 1st Phone Number will be changed to an invalid phone number.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 29 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|--|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 00Z On Time | 1676 | Radio | Correctly | Normal | 2 nd Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight – Xmit Coded Messages using 2 nd Backup dial | | | | | | |
| Scheduled for | | | Week 2 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 2nd Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC and the RWS LDAD information 1st Phone Number will be changed to an invalid phone number.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 31 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|--|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1678 | Radio | Correctly | Normal | 1 st Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight | | | | | | |
| Scheduled for | | | Week 2 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p><u>Surface Ob equipment</u> - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: RRS User Guide: Section 5.3.1</p> | | | | | | | | | |
| <p><u>Frequency</u> – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: RRS User Guide: Chapter 8</p> | | | | | | | | | |
| <p><u>Transmission Event</u> - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 1st Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC.</p> <p>Reference: RRS User Guide: Chapter 5.4 & 10</p> | | | | | | | | | |

| Test # 34 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | 00Z On Time | 1680 | Radio | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Synoptic Comparison Flight | | | | | | |
| Scheduled for | | | Week 2 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 35 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1682 | Radio | Correctly | Normal | 1 st Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight | | | | | | |
| Scheduled for | | | Week 2 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 1st Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 36 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | 00Z On Time | 1676 | Radio | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Synoptic Comparison Flight | | | | | | |
| Scheduled for | | | Week 2 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 45 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|--|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z B4 | 1678 | Radio | Correctly | Normal | 1 st Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight – Release radiosonde before 12Z synoptic window | | | | | | |
| Scheduled for | | | Week 2 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 1st Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>6. Release just before synoptic window – For a 12Z flight the user should release no earlier than 1045Z and no later than 1059Z. For a 00Z flight the user should release no earlier than 2245Z and no later than 2259Z.</p> | | | | | | | | | |

| Test # 48 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|--|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | 00Z B4 | 1680 | Radio | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Synoptic Comparison Flight – Release radiosonde before 00Z synoptic window | | | | | | |
| Scheduled for | | | Week 2 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>6. Release just before synoptic window – For a 12Z flight the user should release no earlier than 1045Z and no later than 1059Z. For a 00Z flight the user should release no earlier than 2245Z and no later than 2259Z. Reference: <i>WSOH-10: 6.2</i></p> | | | | | | | | | |

| Test # 49 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1682 | Radio | Correctly | Normal | 1 st Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight | | | | | | |
| Scheduled for | | | Week 2 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 1st Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

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|---|--------------|-----------------------------------|---|-------------|-------------------------------------|-----------------------------|---------------------------|-------------------------------|--------------------------|
| Test # 51 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
| Release & Flight Scenario | | | 00Z On Time | 1676 | Radio | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Synoptic Comparison Flight | | | | | | |
| Scheduled for | | | Week 2 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 57 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|--|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1678 | Radio | Correctly | Normal | 1 st Backup Dial | Skip |
| Description of Flight | | | Synoptic Comparison Flight – Skip transmission of Archive data. Transmit both synoptic BUFR messages after next synoptic flight. NCDC should inform site that BUFR message was not received before next synoptic flight. | | | | | | |
| Scheduled for | | | Week 2 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 1st Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>27A. Skip transmission of archive data – Archive the flight but do not transmit the BUFR file.</p> <p>Reference: <i>RRS User Guide: Chapter 12</i></p> | | | | | | | | | |

| Test # 58 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|--|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | 00Z On Time | 1680 | Radio | Correctly | Normal | Primary AWIPS | Xmit both |
| Description of Flight | | | Synoptic Comparison Flight – Transmit previous and current flight BUFR messages to NCDC. | | | | | | |
| Scheduled for | | | Week 2 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario. To change RSOIS connection type , power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470. To change the surface observation equipment to ASOS , power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately. To restore the RSOIS and PDB connection to the RRS PC , power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable. Reference: <i>RRS User Guide: Section 5.3.1</i> | | | | | | | | | |
| Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director. Reference: <i>RRS User Guide: Chapter 8</i> | | | | | | | | | |
| Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario. To restore the Primary AWIPS connection , the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD. Reference: <i>RRS User Guide: Chapter 5.4 & 10</i> | | | | | | | | | |
| 27B. Transmit both archive data files – After the flight, transmit the BUFR files from this flight and the previous synoptic flight. Reference: <i>RRS User Guide: Chapter 12</i> | | | | | | | | | |

| Test # 38 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1678 | Radio | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Asynoptic Flight | | | | | | |
| Scheduled for | | | Week 2 – Daytime | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 39 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1680 | Radio | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Asynoptic Flight | | | | | | |
| Scheduled for | | | Week 2 - Nighttime | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | |
|---|--------------|-----------------------------|---|-------------|--------------------------|-------------------------|-----------------------|---------------------------|----------------------|--|----------|---------------|--|----------|---------------|---------|--|--|---------|--|--|
| Test # 28 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event | | | | | | | | | | | | |
| Release & Flight Scenario | | | Asynoptic | 1682 | Radio | Correctly | Normal | Primary AWIPS | Normal | | | | | | | | | | | | |
| Description of Flight | | | Asynoptic Flight - Change surface pressure and cloud/wx group before 400hpa | | | | | | | | | | | | | | | | | | |
| Scheduled for | | | Week 2 | | | | | | | | | | | | | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | | | | | | | | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | | | | | | | | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N -S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | | | | | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | | | | | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | | | | | | | | | | | | | |
| <p>24. Change surface pressure and Cloud/WX group before 400hPa – Prior to powering on the RRS PC remove the PDB cable (J700-2A3W4-25) from the front of the PDB. During preflight take an observation as normal, but enter and record (below) the surface pressure and an incorrect cloud/weather group (SFCOB-1). After release, record (below) the release PDB surface pressure and cloud/weather group (SFCOB-2), but enter the original pressure and incorrect cloud/wx (SFCEOB-1). Prior to reaching 400 hPa in the Received PTU, change the surface pressure and cloud/wx group to the recorded release surface observation (SFCOB-2). Change surface observation in accordance with the RRS Users Guide.</p> <table border="1" style="width: 100%;"> <tr> <td></td> <td>Pressure</td> <td>Cloud/Weather</td> <td></td> <td>Pressure</td> <td>Cloud/Weather</td> </tr> <tr> <td>SFCOB-1</td> <td></td> <td></td> <td>SFCOB-2</td> <td></td> <td></td> </tr> </table> <p>Reference: <i>RRS User Guide: Section 4.2.6</i></p> | | | | | | | | | | | Pressure | Cloud/Weather | | Pressure | Cloud/Weather | SFCOB-1 | | | SFCOB-2 | | |
| | Pressure | Cloud/Weather | | Pressure | Cloud/Weather | | | | | | | | | | | | | | | | |
| SFCOB-1 | | | SFCOB-2 | | | | | | | | | | | | | | | | | | |

| Test # 30 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|--|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Aysnoptic | 1676 | Radio | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Asynoptic Flight – Xmit coded msgs in rework mode only < 3hrs | | | | | | |
| Scheduled for | | | Week 2 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p><u>Surface Ob equipment</u> - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p><u>Frequency</u> – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p><u>Transmission Event</u> - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p><u>21. Transmit coded messages from rework only < 3 hours</u>– During a flight, do no transmit any coded messages during live flight or in post-flight. Close the flight without transmitting coded messages and open the flight in Rework and then transmit all coded messages within 3 hours of release.</p> <p>Reference: <i>RRS User Guide: Chapter 4</i></p> | | | | | | | | | |

| Test # 32 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1678 | Radio | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Asynoptic Flight – Reinstall RWS and restore data prior to flight | | | | | | |
| Scheduled for | | | Week 2 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>30. Reinstall RWS and restore data from backup - Follow the instructions in NWS EHB 9-904 RRS Administration Manual.</p> <p>Reference: <i>NWS EHB 9-904 Chapter 2</i></p> | | | | | | | | | |

| Test # 33 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------|---------------------|---------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1680 | Radio | Correctly | Reject 1 radiosonde | Primary AWIPS | Normal |
| Description of Flight | | | Asynoptic Flight – Reject 1 radiosonde @ baseline | | | | | | |
| Scheduled for | | | Week 2 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario. To change RSOIS connection type , power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470. To change the surface observation equipment to ASOS , power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately. To restore the RSOIS and PDB connection to the RRS PC , power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable. Reference: <i>RRS User Guide: Section 5.3.1</i> | | | | | | | | | |
| Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director. Reference: <i>RRS User Guide: Chapter 8</i> | | | | | | | | | |
| Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario. To restore the Primary AWIPS connection , the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD. Reference: <i>RRS User Guide: Chapter 5.4 & 10</i> | | | | | | | | | |
| 10. Reject one radiosonde at baseline – To produce a rejected radiosonde a Ground Test radiosonde will have the thermistor shorted out to induce temperature anomalies. First, the operator will attempt to baseline the Ground Test radiosonde while on a power supply. Then, the Ground Test radiosonde will be rejected according to the WSOH- 10 and RRS User Guide. Finally, a new radiosonde will be baselined and launched in accordance to the RRS User Guide. Ensure the same ascension number is used. Reference: <i>RRS User Guide: Section 8.3</i> <i>WSOH-10 Section 6.8.3</i> | | | | | | | | | |

| Test # 37 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|--|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1680 | ASOS | Correctly | Normal | 1 st Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight / Familiarization | | | | | | |
| Scheduled for | | | Week 3 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p><u>Surface Ob equipment</u> - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: RRS User Guide: Section 5.3.1</p> | | | | | | | | | |
| <p><u>1. Familiarization flight</u> – The test monitor should use the Familiarization procedures identified in the RRS Deployment Implementation Plan. Station personnel will assist the SDT during the Acceptance Test Procedures for familiarization flight instruction.</p> <p>Reference: Implementation Plan Section: 8.0</p> | | | | | | | | | |
| <p><u>Transmission Event</u> - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 1st Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC.</p> <p>Reference: RRS User Guide: Chapter 5.4 & 10</p> | | | | | | | | | |

| Test # 40 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|--|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | 00Z On Time | 1682 | ASOS | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Synoptic Comparison Flight / Familiarization | | | | | | |
| Scheduled for | | | Week 3 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>1. Familiarization flight – The test monitor should use the Familiarization procedures identified in the RRS Deployment Implementation Plan. Station personnel will assist the SDT during the Acceptance Test Procedures for familiarization flight instruction.</p> <p>Reference: <i>Implementation Plan Section: 8.0</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 1st Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 41 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1676 | ASOS | Correctly | Normal | 1 st Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight / Familiarization | | | | | | |
| Scheduled for | | | Week 3 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>1. Familiarization flight – The test monitor should use the Familiarization procedures identified in the RRS Deployment Implementation Plan. Station personnel will assist the SDT during the Acceptance Test Procedures for familiarization flight instruction.</p> <p>Reference: <i>Implementation Plan Section: 8.0</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 1st Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 42 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|--|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | 00Z On Time | 1678 | ASOS | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Synoptic Comparison Flight / Familiarization | | | | | | |
| Scheduled for | | | Week 3 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>1. Familiarization flight – The test monitor should use the Familiarization procedures identified in the RRS Deployment Implementation Plan. Station personnel will assist the SDT during the Acceptance Test Procedures for familiarization flight instruction.</p> <p>Reference: <i>Implementation Plan Section: 8.0</i></p> | | | | | | | | | |

| Test # 43 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1680 | ASOS | Correctly | Normal | 1 st Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight / Familiarization | | | | | | |
| Scheduled for | | | Week 3 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>1. Familiarization flight – The test monitor should use the Familiarization procedures identified in the RRS Deployment Implementation Plan. Station personnel will assist the SDT during the Acceptance Test Procedures for familiarization flight instruction.</p> <p>Reference: Implementation Plan Section: 8.0</p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 1st Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 44 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|--|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | 00Z On Time | 1682 | ASOS | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Synoptic Comparison Flight / Familiarization | | | | | | |
| Scheduled for | | | Week 3 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>1. Familiarization flight – The test monitor should use the Familiarization procedures identified in the RRS Deployment Implementation Plan. Station personnel will assist the SDT during the Acceptance Test Procedures for familiarization flight instruction.</p> <p>Reference: <i>Implementation Plan Section: 8.0</i></p> | | | | | | | | | |

| Test # 53 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1676 | ASOS | Correctly | Normal | 1 st Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight | | | | | | |
| Scheduled for | | | Week 3 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: RRS User Guide: Section 5.3.1</p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 1st Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC.</p> <p>Reference: RRS User Guide: Chapter 5.4 & 10</p> | | | | | | | | | |

| Test # 56 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|--|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | 00Z On Time | 1678 | ASOS | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Synoptic Comparison Flight | | | | | | |
| Scheduled for | | | Week 3 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 59 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z EOW | 1680 | ASOS | Correctly | Normal | 1 st Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight – Release radiosonde near the end of the 12Z synoptic window | | | | | | |
| Scheduled for | | | Week 3 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 1st Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>5. Release towards end of synoptic window – For 12Z flights the balloon should be released no earlier than 1230Z and no later than 1259Z. For the 00Z flights the balloon should be released no earlier than 0030Z and no later than 0059Z.</p> <p>Reference: <i>WSOH-10: 6.2</i></p> | | | | | | | | | |

| Test # 62 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | 00Z EOW | 1682 | ASOS | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Synoptic Comparison Flight – Release radiosonde near the end of the 00Z synoptic window | | | | | | |
| Scheduled for | | | Week 3 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>5. Release towards end of synoptic window – For 12Z flights the balloon should be released no earlier than 1230Z and no later than 1259Z. For the 00Z flights the balloon should be released no earlier than 0030Z and no later than 0059Z. Reference: <i>WSOH-10: 6.2</i></p> | | | | | | | | | |

| Test # 63 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|--|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1676 | ASOS | Correctly | Normal | 2 nd Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight – Xmit coded messages using 2 nd backup dial | | | | | | |
| Scheduled for | | | Week 3 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 2nd Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC and the RWS LDAD information 1st Phone Number will changed to an invalid phone number.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 64 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|--|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 00Z On Time | 1678 | ASOS | Correctly | Normal | 2 nd Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight – Xmit coded messages using 2 nd backup dial | | | | | | |
| Scheduled for | | | Week 3 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 2nd Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC and the RWS LDAD information 1st Phone Number will be changed to an invalid phone number.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 65 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1680 | ASOS | Correctly | Normal | 1 st Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight – Retransmit messages from Rework | | | | | | |
| Scheduled for | | | Week 3 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 1st Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>20. Re-transmit coded messages from rework mode – After closing a flight, open it and Rework and retransmit all coded messages.</p> <p>Reference: <i>RRS User Guide: Chapter 4</i></p> | | | | | | | | | |

| Test # 66 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Skip | | | | | No Data | |
| Description of Flight | | | Skip Entire Synoptic Flight and transmit coded messages “without data” from RWS to NCEP | | | | | | |
| Scheduled for | | | Week 3 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>4. Skip a synoptic flight - During the synoptic window, do not conduct a flight. Only send a No Data Message in accordance with the RRS Users Guide. Ensure an ascension number is not used.</p> <p>Reference: <i>RRS User Guide Section 10.3.3</i></p> | | | | | | | | | |

| Test # 46 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1680 | ASOS | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Asynoptic Flight. | | | | | | |
| Scheduled for | | | Week 3 - Daytime | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 47 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1682 | ASOS | Correctly | Normal | 1 st Backup Dial | Normal |
| Description of Flight | | | Asynoptic Flight | | | | | | |
| Scheduled for | | | Week 3 - Nighttime | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 1st Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 50 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1676 | ASOS | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Asynoptic Flight – Xmit Messages in Rework Only >3hrs <6hrs | | | | | | |
| Scheduled for | | | Week 3 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>22. Transmit coded messages from rework only > 3 hours & < 6 hours – During a flight, do no transmit any coded messages during live flight or in post-flight. Close the flight without transmitting coded messages and open the flight in Rework and then transmit all coded messages after 3 hours but before 6 hours of release. Reference: <i>RRS User Guide: Chapter 4</i></p> | | | | | | | | | |

| Test # 54 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|--|------|----------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Aysnoptic | 1678 | ASOS | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Asynoptic Flight – Prior to flight replace RWS with a replacement PC and verify no impact. | | | | | | |
| Scheduled for | | | Week 3 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> | | | | | | | | | |
| <p>33. Replace RWS PC – Prior to a flight the user may be instructed to replace the RWSPC with a replacement PC and install RWS. To do this, follow the instructions in NWS EHB 9-901 RadiosondeReplacement System (RRS) Workstation Subsystem (RWS) Organizational Level and NWS EHB 9-904 RRS Administration document.</p> <p>Reference: <i>NWS EHB 9-904 Sections 1.5.2 and 2.3</i></p> | | | | | | | | | |

| Test # 52 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------|---------------------|-------------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1680 | ASOS | Correctly | Reject 2 Radiosondes | Primary AWIPS | Normal |
| Description of Flight | | | Asynoptic Flight – Reject 2 radiosondes at baseline | | | | | | |
| Scheduled for | | | Week 3 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario. To change RSOIS connection type , power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470. To change the surface observation equipment to ASOS , power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately. To restore the RSOIS and PDB connection to the RRS PC , power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable. Reference: <i>RRS User Guide: Section 5.3.1</i> | | | | | | | | | |
| Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director. Reference: <i>RRS User Guide: Chapter 8</i> | | | | | | | | | |
| Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario. To restore the Primary AWIPS connection , the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD. Reference: <i>RRS User Guide: Chapter 5.4 & 10</i> | | | | | | | | | |
| 11. Reject two radiosondes at baseline - To produce a rejected radiosonde, a Ground Test radiosonde will have the thermistor shorted out to induce temperature anomalies. First, the operator will attempt to baseline the Ground Test radiosonde while on a power supply. Then, the Ground Test radiosonde will be rejected according to the WSOH-10 and RRS User Guide. Next the operator will attempt to baseline another Ground Test radiosonde. This will also be rejected according to the WSOH- 10 and RRS User Guide. Finally, the baseline process will be repeated with a new radiosonde. Ensure the same ascension number is used. Reference: <i>RRS User Guide: Section 8.3, WSOH-10 Section 6.8.3</i> | | | | | | | | | |

| Test # 55 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1682 | ASOS | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Asynoptic Flight – Reject radiosonde@ release point | | | | | | |
| Scheduled for | | | Week 3 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director. Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>12. Reject a radiosonde at the release point – After successfully baselining a Ground Test radiosonde and going to the release point, the user will be asked to simulate accidentally damaging the radiosonde. Then return to the workstation to reject the radiosonde in accordance with the RRS Users Guide and WSOH-10. Finally, a new radiosonde should then be prepared and launched in accordance to the RRS User Guide.</p> <p>Reference: <i>RRS User Guide: Chapter 8, WSOH-10 Section 6.8.3</i></p> | | | | | | | | | |

| Test # 67 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1682 | Fiber | Correctly | Normal | 1 st Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight | | | | | | |
| Scheduled for | | | Week 4 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario. To change RSOIS connection type , power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470. To change the surface observation equipment to ASOS , power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately. To restore the RSOIS and PDB connection to the RRS PC , power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable. Reference: <i>RRS User Guide: Section 5.3.1</i> | | | | | | | | | |
| Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director. Reference: <i>RRS User Guide: Chapter 8</i> | | | | | | | | | |
| Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario. To change to the 1st Backup Dial , the LAN (Ethernet) Connection will be removed from the back of the RRS PC. Reference: <i>RRS User Guide: Chapter 5.4 & 10</i> | | | | | | | | | |

| Test # 70 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | 00Z On Time | 1676 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Synoptic Comparison Flight | | | | | | |
| Scheduled for | | | Week 4 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director. Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 71 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1678 | Fiber | Correctly | Normal | 1 st Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight | | | | | | |
| Scheduled for | | | Week 4 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director. Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 1st Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 73 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | 00Z On Time | 1680 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Synoptic Comparison Flight | | | | | | |
| Scheduled for | | | Week 4 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario. To change RSOIS connection type , power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470. To change the surface observation equipment to ASOS , power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately. To restore the RSOIS and PDB connection to the RRS PC , power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable. Reference: <i>RRS User Guide: Section 5.3.1</i> | | | | | | | | | |
| Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director. Reference: <i>RRS User Guide: Chapter 8</i> | | | | | | | | | |
| Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario. To change to the 1st Backup Dial , the LAN (Ethernet) Connection will be removed from the back of the RRS PC. Reference: <i>RRS User Guide: Chapter 5.4 & 10</i> | | | | | | | | | |

| Test # 75 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1682 | Fiber | Correctly | Normal | 1 st Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight | | | | | | |
| Scheduled for | | | Week 4 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director. Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 1st Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 78 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | 00Z On Time | 1676 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Synoptic Comparison Flight | | | | | | |
| Scheduled for | | | Week 4 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director. Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 79 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1678 | Fiber | Correctly | Normal | 1 st Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight | | | | | | |
| Scheduled for | | | Week 4 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario. To change RSOIS connection type , power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470. To change the surface observation equipment to ASOS , power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately. To restore the RSOIS and PDB connection to the RRS PC , power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable. Reference: <i>RRS User Guide: Section 5.3.1</i> | | | | | | | | | |
| Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director. Reference: <i>RRS User Guide: Chapter 8</i> | | | | | | | | | |
| Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario. To change to the 1st Backup Dial , the LAN (Ethernet) Connection will be removed from the back of the RRS PC. Reference: <i>RRS User Guide: Chapter 5.4 & 10</i> | | | | | | | | | |

| Test # 80 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | 00Z On Time | 1680 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Synoptic Comparison Flight | | | | | | |
| Scheduled for | | | Week 4 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director. Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 81 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1682 | Fiber | Correctly | Normal | 1 st Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight | | | | | | |
| Scheduled for | | | Week 4 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director. Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 1st Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 83 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|-----------------------|
| Release & Flight Scenario | | | 00Z On Time | 1676 | Fiber | Correctly | Normal | Primary AWIPS | Xmit Old BUFR File |
| Description of Flight | | | Synoptic Comparison Flight – Xmit old Archive BUFR file | | | | | | |
| Scheduled for | | | Week 4 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director. Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>28. Transmit an old archive file – After a flight, only transmit an old BUFR file.</p> <p>Reference: <i>RRS User Guide: Chapter 12</i></p> | | | | | | | | | |

| Test # 84 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z On Time | 1678 | Fiber | Correctly | Normal | 2 nd Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight – Xmit using 2 nd Backup dial | | | | | | |
| Scheduled for | | | Week 4 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 2nd Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC and the RWS LDAD information 1st Phone Number will be changed to an invalid phone number.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 85 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 00Z On Time | 1680 | Fiber | Correctly | Normal | 2 nd Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight – Xmit using 2 nd Backup dial | | | | | | |
| Scheduled for | | | Week 4 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 2nd Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC and the RWS LDAD information 1st Phone Number will be changed to an invalid phone number.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 86 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|--|------|----------------------------|---------------------|-------------------|-----------------------------|------------------|
| Release & Flight Scenario | | | 12Z AFT | 1682 | Fiber | Correctly | Normal | 1 st Backup Dial | Normal |
| Description of Flight | | | Synoptic Comparison Flight – Release radiosonde just after synoptic window | | | | | | |
| Scheduled for | | | Week 4 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director. Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To change to the 1st Backup Dial, the LAN (Ethernet) Connection will be removed from the back of the RRS PC.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>7. Release just after synoptic window – For a 12Z flight the user should release no earlier than 1300Z and no later than 1315Z. For a 00Z flight the user should release no earlier than 0100Z and no later than 0115Z.</p> <p>Reference: <i>WSOH-10: 6.2</i></p> | | | | | | | | | |

| Test # 87 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|--|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | 00Z AFT | 1676 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Synoptic Comparison Flight - Release radiosonde just after synoptic window | | | | | | |
| Scheduled for | | | Week 4 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: RRS User Guide: Section 5.3.1</p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director. Reference: RRS User Guide: Chapter 8</p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: RRS User Guide: Chapter 5.4 & 10</p> | | | | | | | | | |
| <p>7. Release just after synoptic window – For a 12Z flight the user should release no earlier than 1300Z and no later than 1315Z. For a 00Z flight the user should release no earlier than 0100Z and no later than 0115Z.</p> <p>Reference: WSOH-10: 6.2</p> | | | | | | | | | |

| Test # 60 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1682 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Asynoptic Flight | | | | | | |
| Scheduled for | | | Week 4 - Daytime | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| Test # 61 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1676 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Asynoptic Flight | | | | | | |
| Scheduled for | | | Week 4 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | |
|--|--------------|-----------------------------------|---|-------------|-------------------------------------|-----------------------------|---------------------------|-------------------------------|--------------------------|--|----------|---------------|--|----------|---------------|---------|--|--|---------|--|--|
| Test # 68 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event | | | | | | | | | | | | |
| Release & Flight Scenario | | | Asynoptic | 1682 | Fiber | Correctly | Normal | Primary AWIPS | Normal | | | | | | | | | | | | |
| Description of Flight | | | Asynoptic Flight – Change Surface pressure and cloud/wx group after 400hpa. | | | | | | | | | | | | | | | | | | |
| Scheduled for | | | Week 4 | | | | | | | | | | | | | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | | | | | | | | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | | | | | | | | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | | | | | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | | | | | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | | | | | | | | | | | | | |
| <p>25. Change surface pressure and Cloud/WX group after 400hPa – Prior to powering on the RRS PC remove the PDB cable (J700-2A3W4-25) from the front of the PDB. During preflight take an observation as normal, but enter and record (below) the surface pressure and an incorrect cloud/wx group (SFCOB-1). After release, record (below) the release PDB surface pressure and cloud/wx group (SFCOB-2), but enter the original pressure & incorrect cloud/wx group (SFCOB-1). After reaching 400 hPa in the Received PTU, change the surface pressure and cloud/wx group to the recorded release surface observation (SURFACEOB-2). Change surface observation in accordance with the RRS Users Guide.</p> <table border="1" style="width: 100%;"> <tr> <td></td> <td>Pressure</td> <td>Cloud/Weather</td> <td></td> <td>Pressure</td> <td>Cloud/Weather</td> </tr> <tr> <td>SFCOB-1</td> <td></td> <td></td> <td>SFCOB-2</td> <td></td> <td></td> </tr> </table> <p>Reference: <i>RRS User Guide: Section 4.2.6</i></p> | | | | | | | | | | | Pressure | Cloud/Weather | | Pressure | Cloud/Weather | SFCOB-1 | | | SFCOB-2 | | |
| | Pressure | Cloud/Weather | | Pressure | Cloud/Weather | | | | | | | | | | | | | | | | |
| SFCOB-1 | | | SFCOB-2 | | | | | | | | | | | | | | | | | | |

| Test # 69 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event | | | | | | | | | | | | |
|---|----------|---------------------|---|----------|----------------------------|---------------------|-------------------|-----------------------|------------------|--|----------|---------------|--|----------|---------------|---------|--|--|---------|--|--|
| Release & Flight Scenario | | | Asynoptic | 1676 | Fiber | Correctly | Normal | Primary AWIPS | Normal | | | | | | | | | | | | |
| Description of Flight | | | Asynoptic Flight – Change Surface pressure and cloud/wx group in Rework and Xmit messages | | | | | | | | | | | | | | | | | | |
| Scheduled for | | | Week 4 | | | | | | | | | | | | | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | | | | | | | | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | | | | | | | | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | | | | | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | | | | | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | | | | | | | | | | | | | |
| <p>26. Change surface pressure and Cloud/WX group in rework mode – Prior to powering on the RRS PC remove the PDB cable (J700-2A3W4-25) from the front of the PDB. During preflight take an observation as normal, but enter and record (below) the surface pressure and an incorrect cloud/wx group (SFCOB-1). After release, record (below) the release PDB surface pressure and cloud/wx group (SFCOB-2), but enter the original pressure and incorrect cloud/wx group (SFCOB-1). Continue the flight as normal. After the flight terminates, open it in Rework Mode and change the surface pressure and cloud/wx group (SFCOB-2) in accordance with the RRS Users Guide. Retransmit the coded messages.</p> <table border="1" style="width: 100%;"> <tr> <td></td> <td>Pressure</td> <td>Cloud/Weather</td> <td></td> <td>Pressure</td> <td>Cloud/Weather</td> </tr> <tr> <td>SFCOB-1</td> <td></td> <td></td> <td>SFCOB-2</td> <td></td> <td></td> </tr> </table> <p>Reference: <i>RRS User Guide: Section 4.2.6</i></p> | | | | | | | | | | | Pressure | Cloud/Weather | | Pressure | Cloud/Weather | SFCOB-1 | | | SFCOB-2 | | |
| | Pressure | Cloud/Weather | | Pressure | Cloud/Weather | | | | | | | | | | | | | | | | |
| SFCOB-1 | | | SFCOB-2 | | | | | | | | | | | | | | | | | | |

| Test # 72 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|--|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1678 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Asynoptic Flight – Xmit from Rework Only > 6hrs | | | | | | |
| Scheduled for | | | Week 4 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>23. Transmit coded messages from rework only > 6 hours after release – During a flight, do no transmit any coded messages during live flight or in post-flight. Close the flight without transmitting coded messages and open the flight in Rework and then transmit all coded messages at least 6 hours after release.</p> <p>Reference: <i>RRS User Guide: Chapter 4</i></p> | | | | | | | | | |

| Test # 76 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1680 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Asynoptic Flight – Install new load of RWS and restore data from Backup | | | | | | |
| Scheduled for | | | Week 4 | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>32. Install a new RWS software load and restore data from backup - Follow the instructions in NWS EHB 9-904 RRS Administration Manual.</p> <p>Reference: <i>NWS EHB 9-904 Section 2.2.5.1</i></p> | | | | | | | | | |

| Test # 74 | Date: | RRSAsc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|--------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1676 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Case Conditions | | | Asynoptic Flight – Leave RH Cap on Radiosonde | | | | | | |
| Scheduled for | | | Test Director Discretion | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>14. Leave RH sensor cap on – During radiosonde preparation, do not remove the RH sensor cap. Launch the radiosonde with the RH sensor cap still intact.</p> | | | | | | | | | |

| Test # 82 | Date: | RRSAsc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|--------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1678 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Case Conditions | | | Asynoptic Flight – Leave thermistor cover on radiosonde | | | | | | |
| Scheduled for | | | Test Director Discretion | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>15. Leave thermistor cover on – During radiosonde preparation, do not remove the thermistor cover. Launch the radiosonde with the thermistor cover still intact.</p> | | | | | | | | | |

| Test # 77 | Date: | RRSAsc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|--------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1680 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Case Conditions | | | Asynoptic Flight – Power Failure / Recovery | | | | | | |
| Scheduled for | | | Test Director Discretion | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>29. Simulate a power failure and recovery – During an asynoptic flight, the power switch on the front of the Workstation DCE rack will be powered off momentarily. After which the observer will attempt to recover the flight and either transmit the recovered messages or attempt a second release following procedures identified in the WSOH-10 and RRS User Guide.</p> <p>Reference: <i>RRS User Guide: Section 11.4</i></p> | | | | | | | | | |

| Test # 25 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1682 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Asynoptic Flight – Use Dereeler | | | | | | |
| Scheduled for | | | Test Director Discretion | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>16. Use a dereeler –A flight may require the operator to use a dereeler due to excessive surface wind or by direction of the Test Director. This should be done in accordance with the FMH-3 and WSOH-10.</p> <p>Reference: <i>WSOH-10 Section: 5.2.4</i></p> | | | | | | | | | |

| Test # 24 | Date: | RRS Asc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|---------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1676 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Description of Flight | | | Asynoptic Flight – Induce Temp Sensor Failure during release | | | | | | |
| Scheduled for | | | Test Director Discretion | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>13. Induce sensor failure during release – During the release sequence, intentionally induce a sensor failure during release by disconnecting the thermistor wire.</p> | | | | | | | | | |

| Test # 17 | Date: | RRSAsc# MA Asc# | Time UTC: | Freq | SURFACE OB Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|--------------------|---|------|----------------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1678 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Case Conditions | | | Asynoptic Flight – Leave TRS in Manual Track Mode at release | | | | | | |
| Scheduled for | | | Test Director Discretion | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.</p> <p>Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>34. Leave TRS in Manual Track Mode at release – During release, the operator should move the antenna in the direction the radiosonde is expected to travel. After release, the observer should leave the TRS in manual track mode. Only when the missing data alarm is activated should the operator attempt to reacquire the radiosonde using the procedures identified in the WSOH-10 and RRS User Guide to re-acquire the radiosonde.</p> <p>Reference: <i>RRS User Guide Sections: 8.4 & E.3</i> <i>WSOH-10 Section: 3.4.3</i></p> | | | | | | | | | |

| Test # 16 | Date: | RRSAsc# MA Asc# | Time UTC: | Freq | SURFACE Equipment | Antenna Position | Baseline Event | Transmission Event | Archive Event |
|---|-------|--------------------|---|------|----------------------|---------------------|-------------------|-----------------------|------------------|
| Release & Flight Scenario | | | Asynoptic | 1680 | Fiber | Correctly | Normal | Primary AWIPS | Normal |
| Case Conditions | | | Asynoptic Flight – Leave AFC turned off at release | | | | | | |
| Scheduled for | | | Test Director Discretion | | | | | | |
| Circle Case Conditions Used | | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19A 19B 20 21 22 | | | | | | |
| | | | 23 24 25 26 27A 27B 28 29 30 31 32 33 34 35 | | | | | | |
| <p>Surface Ob equipment - During ST II, the surface observation equipment type and connection will be changed to include all allowable combinations. Surface equipment will include; RSOIS with Fiber Modem Connection, RSOIS Base Station Connection, and ASOS data entered manually. Test personnel will configure RRS equipment connection and Station Data depending on the test scenario.</p> <p>To change RSOIS connection type, power off the RRS PC and RSOIS Fiber Modem and Base station. Then swap the RSOIS RS-232 cables connected to Equinox cable #3. The cable number for the RSOIS Fiber Modem is J700-2A3W-23 and RSOIS Base Station cable number is ASN S200-A4W2, P/N –S1470.</p> <p>To change the surface observation equipment to ASOS, power off the RRS PC and RSOIS Fiber Modem/Base Station. Then remove the RS-232 cables from the Equinox cables # 3 and # 4. This will essentially removes the PDB and RSOIS connections to the RRS PC. The RWS Station Data surface observation equipment type will be changed appropriately.</p> <p>To restore the RSOIS and PDB connection to the RRS PC, power off the RRS PC and RSOIS Fiber Modem/Base station. Reconnect the appropriate RSOIS cable to Equinox cable # 3, and reconnect the appropriate PDB cable.</p> <p>Reference: <i>RRS User Guide: Section 5.3.1</i></p> | | | | | | | | | |
| <p>Frequency – Each flight’s frequency will differ from the previous flight. If the scheduled flight frequency is the same as the previous flight, notify the Test Director.</p> <p>Reference: <i>RRS User Guide: Chapter 8</i></p> | | | | | | | | | |
| <p>Transmission Event - During ST II, the coded messages will be transmitted during each flight test except as noted in procedure. Transmitting to the primary AWIPS will be done via the LAN (Ethernet) cable connected to the back of the RRS PC. Prior to flight test personnel will configure RS equipment and Station Data depending on the test scenario.</p> <p>To restore the Primary AWIPS connection, the LAN (Ethernet) cable will be connected to the back of the RRS PC and the original values re-entered into the RWS Station Data LDAD.Reference: <i>RRS User Guide: Chapter 5.4 & 10</i></p> | | | | | | | | | |
| <p>35. Leave AFC turned off at release – RRS operator should conduct a normal flight with the exception that AFC should be left OFF until the missing data alarm is activated. Only when the missing data alarm is activated should the operator attempt to reacquire the radiosonde using the procedures identified in the WSOH-10 and RRS User Guide to re-acquire the radiosonde.</p> <p>Reference: <i>RRS User Guide Section: 8.4 & E.3</i> <i>WSOH-10 Section: 3.4.3</i></p> | | | | | | | | | |

Appendix C

System Test Phase II Test Report

TRG Minutes with Disposition of SIRs

RRS STII Test Review Group Meeting
May 19, 2005

Attendees:

OPS11 – Dom Bosco, John Monte, Darryl Modracek, Ivan Navarro, Fitz Shelton

OPS22 – Bill Blackmore

OPS23 – Eddie Roberts, Rich Thomas

OPS24 – Jae Lee, Samuel Cochran

Sterling – Nick Schmid, Ashby Hawse

Caribou WFO – Jim Fitzgibbon, Bob Thomas, Paul Rockwood, Tom Ranieri (Caribou ME), Duane Wolfe (Caribou ME), Donald Hughes (Wilmington OH), David Anderson (Barrow AK), Matthew Moorman (Glasgow MT)

On May 19, 2005, WFO Caribou hosted the RRS STII Test Review Group (TRG) meeting for the purpose of evaluating the 22 System Issue Reports (SIRs) found during the first week of testing and the feedback from the field personnel about the user training and familiarization processes.

The TRG began with the STII Test Manager, Jim Fitzgibbon, providing a summary of the test activities then continued with the evaluation of the 22 SIRs submitted between May 16 and May 19, 2005.

| SIR | Impact | Priority | Summary | Comments |
|-------------------|--------|----------|---|---|
| 2623 (Merged) | 5 | 2 | WMO message display opened with all messages checked for transmit @ 400hPa. | TRG recommends clearing all check marks as default. Discuss w/ CCB. |
| 2672 (Merged) | 2 | 3 | Local Area Network Connection Disappeared. | Fixed in new load to be delivered to KCAR. |
| 2700 | 4 | 5 | Radiosondes shipped without battery bags or prep instructions. | OPS11 to coordinate with vendor. |
| 2701 | 2 | 5 | Unable to transmit messages using backup dial. | TRG recommended change Priority to 1, add comma to slow down dialing, monitor problem with new RWS load (BIOS). |
| 2702 | 3 | 5 | GPS status quit during live flight. | OPS23 to analyze. |
| 2704 | 5 | 5 | No NCDC folder created for archive files. | TRG recommended this should be created during ghosting procedure. |
| 2706 | 3 | 3 | Click and Zoom on plots difficult to use near surface. | Workaround exists. CCB to review. |
| SIR | Impact | Priority | Summary | Comments |
| 2708 | 4 | 2 | Second release option following an unsuccessful release. | Dom Bosco to coordinate discussion with appropriate personnel. |
| 2709 | 1 | 2 | Coded message format in AWIPS. | Correction in OAT RWS build. |

| | | | | |
|------|---|---|--|--|
| 2710 | 5 | 2 | Put frequency setting instructions on outside of radiosonde cover. | OPS11 to coordinate with vendor. |
| 2711 | 1 | 2 | AWIPS unable to plot all RRS coded message levels. | Referred to Carl Bower for coordination. |
| 2712 | 4 | 5 | Transmitting archive file procedure. | Jim Fitzgibbon to coordinate with appropriate personnel. |
| 2713 | 5 | 3 | TRS Display not refreshing | CCB to review. |
| 2714 | 2 | 2 | Unable to transmit coded messages at termination. | Fixed in RWS build 1.0.4.1 |
| 2715 | 5 | 5 | Saving a workspace not displaying plot as saved. | CCB to review. |
| 2716 | 5 | 5 | TRS did not initialize correctly. | Part to be delivered and maintenance scheduled. |
| 2717 | 2 | 5 | Rejected radiosonde. | Radiosonde to be shipped to Sterling. |
| 2718 | 3 | 5 | TRS reporting critical failures. | OPS11 to analyze. |
| 2719 | 4 | 5 | Received message "RWS program not responding. End now?" at termination during live flight. | CCB to review. |
| 2720 | 2 | 2 | Transfer of archive file instructions when no LAN is available. | Bob Thomas to add instructions to Handbook. |
| 2721 | 1 | 2 | RADAT message not formatted correctly in AWIPS. | Jae Lee to analyze. |
| 2722 | 2 | 1 | Coded messages transmitted via backup dial not making it into AWIPS. | Jae Lee to analyze. |

2. Action Items:

AI#1 – Jim Fitzgibbon to provide SPS Maintenance files to Ivan Navarro for analysis.

AI#2 – Paul Rockwood to enter comments from field personnel as SIRs.

3. Discussions:

- a. Bill Blackmore discussed the NCDC / NCEP results and reported that, to date, all performance measures were being met or exceeded.
- b. Bob Thomas discussed some comments and concerns made by the field personnel.
- c. Dom Bosco directed that the STII test continue as scheduled and for the TRG convene next week same time.
- d. Jim Fitzgibbon concluded the meeting by thanking everyone for their support.

RRS STII Test Review Group Meeting
May 26 2005

Attendees:

OPS11 – Dom Bosco, John Monte, Darryl Modracek, Ivan Navarro

OPS22 – Bill Blackmore

OPS23 – Eddie Roberts, Rich Thomas

OPS24 – Jae Lee, Samuel Cochran

Caribou WFO – Jim Fitzgibbon, Bob Thomas, Paul Rockwood, Desjardins (Caribou ME), Duane Wolfe (Caribou ME), Donald Hughes (Wilmington OH), David Anderson (Barrow AK), Matthew Moorman (Glasgow MT)

On May @6, 2005, WFO Caribou hosted the second RRS STII Test Review Group (TRG) meeting for the purpose of evaluating the 16 System Issue Reports (SIRs) found during the first week of testing and the feedback from the field personnel about the user training and familiarization processes.

The TRG began with the STII Test Manager, Jim Fitzgibbon, introducing the arrival of the new team members. The meeting then moved in to evaluating the 16 new SIRs submitted between May 19 and May 26, 2005.

| SIR | Impact | Priority | Summary | Comments |
|-----------------------|--------|----------|---|---|
| 2723 | 5 | 2 | Add modem error codes to debug log. | To be incorporated in to log by OPS23 |
| 2724 | 4 | 2 | Documenting hardware status issues in Users Guide. | OS7 - Bob will make changes to the users guide. |
| 2725 2732 Merge | 3 | 2 | Radiosonde stand for use during release Procedure/System to aerate the sonde rh sensor | OPS11 to coordinate idea for stand. Fitzgibbon to fax copies of ideas to OPS11 |
| 2726 | 2 | 4 | Flight Termination notification | OPS 23 To be analyzed for possible solution. Part of SIR 2672 |
| 2727 | 3 | 1 | PC Clock not keeping correct time | In watch state. |
| 2728 | 3 | 2 | Flight Summary consistency | To be analyzed by OPS23 |
| 2729 | 4 | 2 | Field personnel express concern about the CDU being stationed outside in AK. | It was reported the system should be able to withstand temperatures. |
| 2730 | 3 | 5 | Field personnel express concern about GPS performance in Alaska, especially during Aurora | OPS11 to review available information on GPS/Aurora related issues. |
| SIR | Impact | Priority | Summary | Comments |
| 2731 | 4 | 2 | Field personnel feel a radiosonde battery tester is essential. | Field personnel recommended a device that indicates the battery is working in proper voltage range when under load. |
| 2732 | 2 | 2 | Put frequency setting instructions on outside of radiosonde cover. | OPS11 to coordinate with vendor. |
| 2733 | 2 | 2 | Add RAICG message | Referred to Carl Bower for |

| | | | | |
|------|---|---|---|--|
| | | | | coordination. Jim Fitzgibbon to research documentation for reference to fields recommendation. |
| 2735 | 2 | 2 | TTBB messages nearly 3 times larger than seen in MicroART | Dom Bosco and Carl Bower to conduct analysis |
| 2736 | 4 | 3 | Message transmission window status messages misleading | Field recommends changing message to say what messages were sent. At a minimum it should say selected messages sent. |
| 2737 | 3 | 5 | Radiosonde lost GPS after release. | OPS11 (Ivan) to analyze flight data for possible problem. |
| 2738 | 3 | 2 | Update surface observation data display | To be analyzed by OPS23 |
| 2739 | 4 | 3 | Radiosonde rejected due to damaged case. | It was reported that the vendor has modified their shipping case to avoid this problem |

2. Discussions:

- a. Bill Blackmore discussed the NCDC / NCEP results and reported that, to date, all performance measures were being met or exceeded. Coded message were being received in a timely manner similar to that of MicroART
- b. Bill Desjardins discussed action taken to correct TRS elevation switch problem. Using the BIT errors provided by the observer, Bill look up error codes and isolated the problem to the elevation motor or the elevation index switch. Bill then went to the dome and conducted a visual inspection of the system. In this process he determined that the elevation index switch was not functioning properly. After visual inspection of the switch, he determined it was out of adjustment/loose. Screws tightened and problem is believed to be corrected.
- c. Jim Fitzgibbon reported that some users of NWS upper air data were unable to decode larger products.

RRS STII Test Review Group Meeting
July 02, 2005

Attendees:

OPS11 – Dom Bosco, Darryl Modracek,

OPS22 – Bill Blackmore

OPS23 – Eddie Roberts, Rich Thomas, Jakku Reddy

OPS24 – Jerald Dinges, Jae Lee, Samuel Cochran

Sterling – Ashby Hawse, Paul Rockwood

Caribou WFO – Jim Fitzgibbon, Bob Thomas, Nick Schmid, Richard Norton(Caribou ME), Bob Retzlaff (NWSTC), Al Abernathy(SRH), Dan Kelly(Central Region), Geary Wills(Eastern Region), Larry Maifeld(Southern Region), Sergio Marsh (ERH).

On June 2, 2005, WFO Caribou hosted the RRS STII Test Review Group (TRG) meeting for the purpose of evaluating the 28 System Issue Reports (SIRs) found during the third week of testing and the feedback from the field personnel about the user training and familiarization processes.

The TRG began with the STII Test Manager, Jim Fitzgibbon, providing a summary of the test activities then continued with the evaluation of the 28 SIRs submitted between May 26 and June 2, 2005.

| SIR | Impact | Priority | Summary | Comments |
|------|--------|----------|---|---|
| 2740 | 4 | 5 | Need for "HARMLESS WEATHER INSTRUMENT" label on sondes | OPS11 is taking care of this. |
| 2741 | 2 | 3 | NCDC Archive Retry | User documentation to be updated by OS7. |
| 2742 | 3 | 2 | No status message for transmission of TTCC, TTDD, & PPDD messages | In analysis state. |
| 2743 | 2 | 2 | RWS close button message | CCB to review. |
| 2744 | 3 | 2 | Wind Plot Scaling | Has been deferred. |
| 2745 | 2 | 2 | WMO levels for wind levels with rejected winds | Under review by OPS23. |
| 2746 | 3 | 2 | Limited Search failed message at termination | Under review by OPS23. |
| 2747 | 2 | 2 | UPS wouldn't power on | Under a watch status. |
| 2748 | 2 | 2 | GPS/SPS and Hardware Status windows not updating. | Under review by OPS23. To be retested with full screen. |
| 2749 | 2 | 2 | TRS reset when RCDU removed and reconnected. | Under review by OPS11 |
| 2752 | 1 | 2 | Height change messages at 10 hPa | To be reviewed by Carl Bower. |
| 2753 | 2 | 2 | Missing received temperature in plot, but not in tabular data. | Has been deferred. |
| 2754 | 2 | 2 | No level within 20 hPa of the surface | Has been deferred. |
| 2755 | 3 | 2 | TRS MCU error bit | Darryl working with Kevin Kay for resolution. |
| 2757 | 4 | 2 | Freezing Level in plots - Field Personnel Comments | Has been deferred. |

| SIR | Impact | Priority | Summary | Comments |
|------------|---------------|-----------------|--|---|
| 2758 | 3 | 2 | Missing Mandatory Pressure Level at 1000mb - Field Personnel Comments | Has been deferred. |
| 2759 | 4 | 2 | Wind Plot - Field Personnel Comments | Has been deferred. |
| 2760 | 3 | 2 | Frequency Change for 2nd and 3rd releases. - Field Personnel Comments | OPS23 consider adding frequency window notification. |
| 2761 | 2 | 2 | RWS PC Time - Field Personnel Comments | To be implemented in future OAT build. |
| 2762 | 4 | 2 | Flight Summary Radiosonde SN - Field Personnel Comments | Closed |
| 2763 | 3 | 2 | RSOIS Data for previous temperature - Field Personnel Comments | Has been deferred. |
| 2764 | 4 | 5 | RRS User Guide (PDB) - Field Personnel Comments | Engineering to provide guidance for user documentation. |
| 2765 | 4 | 2 | Switch Y-Axis to Pressure - Field Personnel Comments | Deferred to future build. |
| 2766 | 3 | 2 | Allow observer to add/delete significant levels - Field Personnel Comments | Deferred to future build. |
| 2767 | 4 | 2 | Processed Bar default - Field Personnel Comments | Under review by OPS23. |
| 2768 | 4 | 2 | Processed Bar added functionality - Field Personnel Comments | Has been deferred. |
| 2769 | 1 | 2 | 1000 mb level appears twice in TTAA message | To be reviewed by Carl Bower. |
| 2770 | 1 | 1 | AFWA Comments regarding ST Phase II comms test | To be reviewed by Carl Bower. |
| 2771 | 2 | 3 | Spurious "Microsoft Serial Ballpoint" mouse driver on RWS COM6 (RSOIS) | Under review by OPS23. |

2. Action Items

AI#1 – Ivan Navarro, Bill Blackmore, and Bob Thomas to review SIR 2762.

AI#2 – Nick Schmid to enter comments from field personnel as SIRs.

AI#3 – Nick Schmid to enter SIR about Station Data default frequency.

3. Discussions:

a. Bill Blackmore discussed the NCDC / NCEP results and reported that, to date, all performance measures were being met or exceeded. Products are being reliably received on time by NCEP and NCDC.

b. Dan Kelly, representing the field team discussed the teams consolidate comments and concerns, As a group they are consolidating their comments in terms of pros and cons and then prioritizing them.

c. There was a discussion about the possible impact that removing the CDU from the release point may have on operation.

RRS STII Test Review Group Meeting
June 9, 2005

Attendees:

OPS11 – Dom Bosco

OPS22 – Bill Blackmore

OPS23 – Eddie Roberts, Rich Thomas

OPS24 – Jae Lee, Ken Bashford

Sterling – Ashby Hawse, Paul Rockwood

Caribou WFO – Jim Fitzgibbon, Bob Thomas, Dan Kelly (Central Region), Geary Wills (Eastern Region), Larry Maifeld (Southern Region).

On June 9th, 2005, WFO Caribou hosted the last RRS STII Test Review Group (TRG) meeting for the purpose of evaluating the 20 System Issue Reports (SIRs) found during the fourth and final week of testing and the feedback from the field personnel.

The TRG began with the STII Test Manager, Jim Fitzgibbon, providing a summary of the test activities then continued with the evaluation of the 20 SIRs submitted between June 3rd and June 9th, 2005.

| SIR | Impact | Priority | Summary | Comments |
|------------|---------------|-----------------|--|---|
| 2441 | 2 | 2 | User notification required for observation changes in NCDC archive and all coded messages. | To be reviewed by CCB. |
| 2772 | 3 | 2 | Change termination time process. | QSS personnel to analyze. |
| 2773 | 3 | 3 | Height change check message. | QSS personnel to analyze. |
| 2774 | 4 | 2 | Archive changed after RWS upgrade to 1.0.4.1 | To be implemented in future OAT build. |
| 2775 | 2 | 3 | RWS appears to interpolate inappropriately between two adjacent "Marked" pressure data sections. | Could not be reproduced at HQ using rework mode. QSS to analyze in live flight mode (XDP) as stated in SIR. |
| 2776 | 2 | 2 | Transmission of coded messages dialing routine. | To be implemented in user documentation. |
| 2777 | 3 | 3 | Comparison flight status message. | To be reviewed by CCB. |
| 2779 | 4 | 3 | Baseline pressure discrepancy. | To be reviewed by CCB. |
| 2780 | 2 | 2 | Incorrect pressure entered in surface observation at baseline and corrected in live flight. | To be reviewed by CCB. |
| 2781 | 5 | 3 | Plot mouseover function. | QSS personnel to analyze. |
| 2782 | 3 | 2 | Suspected RH sensor failure. | OPS11 personnel to analyze. |
| 2784 | 4 | 3 | Hardware status error messages should be recorded in Status Messages. | To be reviewed by CCB. |
| 2785 | 3 | 1 | NO GPS/winds at release. | OPS11 personnel to analyze. |

| SIR | Impact | Priority | Summary | Comments |
|-----------------------|---------------|-----------------|---|--|
| 2786 | 3 | 2 | Missing GPS off the surface. | To be implemented in user documentation. |
| 2787 | 4 | 3 | Missing winds messages. | To be reviewed by CCB. |
| 2788 | 3 | 2 | PPDD is not received at KCAR. | OPS24 personnel to analyze. |
| 2789 | 3 | 3 | TRS search function not working correctly. | OPS11 personnel to analyze. |
| 2790 2791(dup) | 1 | 1 | Failure to open database connection. | QSS personnel to analyze. |
| 2792 | 4 | 2 | Superadiabatic lapse rate of 4847.7 C/km between surface and 0.02 | To be reviewed by CCB. |
| 2793 | 4 | 1 | System lock up at termination. | QSS personnel to analyze and user documentation to be updated accordingly. |

Discussions:

- a. Bill Blackmore discussed the NCDC / NCEP results and reported that, to date, all performance measures were being met or exceeded. Products are being reliably received on time by NCEP and NCDC.
- b. Dan Kelly, representing the field team, discussed the teams consolidated comments and concerns. As a group, they are consolidating their comments in terms of pros and cons and then prioritizing them.
- c. It was requested by Rich Thomas and Dom Bosco that the PC used during the test be sent back to SSMC2 so it can be used to analyze some of the problems which were encountered during the test.
- d. It was decided the remaining 17 radiosondes would be left at Caribou for use during a follow on test which was expected to take place at Caribou in about 3 to 4 week.
- e. It was decided that additional SIRs based on the comments from the field personnel would be entered in to Test Track Pro by Tuesday, June 14, 2005.

RRS STII Wrap-up Test Review Group Meeting
July 7, 2005

Attendees:

OPS11 – Dom Bosco, John Monte, Ken Clark
OPS22 – Bill Blackmore, Jim Fitzgibbon, Paul Rockwood
OPS23 – Eddie Roberts, Rich Thomas
OPS24 – Samuel Cochran
OS7 – Bob Thomas

On July 7th 2005, the RRS STII Test Director hosted a wrap-up TRG meeting at SSMC2 in Silver Spring. The meeting began with Jim Fitzgibbon proposing a preliminary schedule for the upcoming STII wrap-up flight tests in Caribou, Maine and requesting dates for testing. After a conference call with Tom Raineri (ESA KCAR), it was determined by Dom Bosco that the test would begin July 11th. Eddie Roberts confirmed the RWS version 0.0.0.222 would be the OAT version to be used. It was unanimously agreed upon that the synoptic flights would transmit coded messages using the LAN and the asynoptic flights would use dial out, alternating between unplugging the LAN cable and disabling the connection via the OS.

Ken Clark briefed that Caribou's comments on Handbook 9 had been incorporated into the document and it was available for review. Tom Raineri from Caribou stated he would try to go through the document again when he sets up the system for the 11 July test.

There was also discussion about the disposition of SIRs 2809 and 2810 which were generated from NCDCs and NECPs analysis of the data from the ST II. Dom Bosco stated that since Carl Bower was on leave he would take these as action items.

There was a brief discussed about the problems OPS23 encountered during the RWS SIR validation being conducted out at Sterling. Although there were no new SIR's written on these problems, it was proposed that the appropriate documentation be updated to add a warning about the problem associated with unplugging the USB printer cable during a flight. Since the personnel responsible for the RRS documentation were present at the meeting, it was assumed that they would make this update.

There was also a discussion about the TIN associated with the Sterling deployment. The question was did the TIN adequately address the changes incorporated into the RWS products. Bob Thomas stated this was being done via a WEB Site. Bob stated he would try to confirm this.

The following is an outline of the flight schedule and the message transmission mode to be used for the Caribou wrap-up test.

| | | 12Z | 15Z | 18 Z | 00Z |
|------------------|--------------|------------|----------------------|----------------------|------------|
| Monday | Travel Day | | | | |
| Tuesday | Setup System | | | 1 st Dial | LAN |
| Wednesday | | LAN | 2 nd Dial | 3 rd Dial | LAN |
| Thursday | | LAN | 1 st Dial | | |
| Friday | Travel Day | | | | |

1st Dial = Eastern Region
2nd Dial = Southern Region
3rd Dial = Local WFO

Appendix D

System Test Phase II Test Report

Legacy System Performance Measures

Appendix D - Legacy System Performance Measures

General System

| Performance Measure | Excellent Performance | Good Performance | Marginal Performance | Poor Performance | RRS Performance |
|---------------------------|--|--|--|--|---|
| Hardware:* | No missed flights** | No more than 1 missed flight | No more than 3 missed flights | More than 3 missed flights | Good. One missed during power failure test. |
| System Failures*** | No missed flights | No more than 1 missed flight | No more than 3 missed flights | More than 3 missed flights | Good. One missed during power failure test. |
| Start-up | System is functional within 10 minutes of activation | System is functional within 15 minutes of activation | System is functional within 20 minutes of activation | System isn't functional within 20 minutes of activation | Excellent. Average warm-up time 3.4 minutes. |
| In-flight | No loss of PTU or winds due to system malfunctions | No more than 5 min loss of PTU/winds due to system malfunctions | No more than 10 min loss of PTU/winds due to system malfunctions | More than 10 min loss of PTU/winds due to system malfunctions | Good. PTU losses <1%. Only 3 flts w/wind loss > 6% |
| Ranging | No loss of winds at less than 250 km from launch point | No more than 1 flight having loss of winds less than 250km (see in-flight) | No more than 3 flight have loss of winds less than 250km (see in-flight) | More than 3 flights have loss of winds less than 250km (see in-flight) | Marginal. Two flights lost >75% winds. One flight 6% winds |
| Shut Down | No system malfunction | No loss of PTU or winds and no more than 1 system malfunction | No more than 1 flight having loss of PTU or winds and no more than 3 system malfunctions | More than 1 flight having loss of PTU or winds and more than 3 system malfunctions | Marginal. Only one system malfunction. Three flights with loss of PTU and Winds |

* Hardware includes: TRS, SPS, RWS, Multiplexer, DGPS Antenna, interfaces, Cables, RSOIS

** A Missed flight is defined as a failure causing the sounding not to be taken during its observational window.

*** System failures include hardware and software supporting the hardware, but not the radiosonde.

COMMUNICATIONS

| Performance Measure | Excellent Performance | Good Performance | Marginal Performance | Poor Performance | RRS Performance |
|-----------------------------------|--|--|---|--|---|
| From RRS to NCF/ NOAAPORT* | | | | | |
| Frequency | 99.0-100% | 98.9 - 98.4% | 98.3-98.0% | Less than 98% | Excellent, but some reports lost by OPS24 |
| Timeliness | 0.5 min or less for all U/A products | 0.5 - 1.0 mins | 1.0 - 1.25 min. | greater than 1.25 min | Excellent, but some reports lost by OPS24 |
| From RRS to WFO* | | | | | |
| Frequency | 98.5%-100% | 98.4 - 98.1% | 98.0 - 97.0% | Less than 97% | Excellent, but some reports lost by OPS24 |
| Timeliness | 3 min for all U/A products | 3.1 to 5 min. | 5.1 to 7 min. | Greater than 7 min. | Excellent, but some reports lost by OPS24 |
| From RRS to NCEP | | | | | |
| Frequency | 98.0-100% | 97.9 - 97.4% | 97.3-97.0% | Less than 97% | Excellent |
| Timeliness | 5 min for all U/A products | 5.1 to 7 min. | 7.1 to 15 min. | greater than 15 min. | Good |
| From site to NCDC (FTP) | No BUFR files missing from NCDC's HDSS | 1 missed transmission & NCDC notifies NWS to retransmit, which is successful | 2-3 transmission missing & NCDC notifies to retransmit, which are successful. | 1 or more missed transmissions at NCDC after NCDC notifies NWS to retransmit | Good. Only 1 flight sent late. |
| From RRS to TG (CLIMAT-TEMP) | N/A | 100% | N/A | 0% | |

*Includes transmissions over back up communications paths as well.

Radiosonde Performance

| Performance Measure | Excellent Performance | Good Performance | Marginal Performance | Poor Performance | RRS Performance |
|---|-----------------------|------------------|----------------------|------------------|---|
| Data Quality: | | | | | |
| Percent of RAOBS with 10% or more temperature levels rejected by NCEP | <1.0% | 1 to 2.9% | 3 to 3.9% | >4.0% | Excellent. No soundings with high rejects |
| Percent of total temperature errors detected by NCDC | <0.3% | 0.3 to 1.9% | 2.0 to 3.9% | >4.0% | Marginal. 2.66% owing mostly to supers |
| Percent of total height errors detected by NCDC | 0% | 0% | 0.05% to 0.1% | >0.1% | Excellent. 0% |
| Percent of total pressure errors detected by NCDC | 0.5% | 0.5 to 1.2% | 1.3% to 1.9% | >2.0% | Good. 0.58% |
| Percent of relative Humidity errors detected by NCDC | 0% | 0% | 0.05% | >0.1 | Poor. 0.22% owing to high dew point depressions |
| Percent of wind errors detected by NCDC | <1% | 1-3% | 3.1-5% | > 5% | Excellent. 0.29% |
| Performance Measure | Excellent Performance | Good Performance | Marginal Performance | Poor Performance | RRS Performance |

| Flight Performance: | | | | | |
|---|-------------------------|------------------------|------------------------|----------------------------|--|
| No. Flights not reaching 400 hPa | None | Not more than 1 | Not more than 2 | More than 2 | Excellent. 1 flight termed early owing to icing. |
| Percent higher than 100 HPA | 100% | 90-99.9% | 85-89.9% | Less than 85% | Good. 97% |
| Percent higher than 20 HPA | 95-100% | 90-94.9% | 85-89.9% | Less than 85% | Excellent. 95% |
| Percent higher than 10 HPA | 80-100% | 70-79.9% | 60-69.9% | Less than 60% | Good. 77% |
| Second releases* | None | No more than 2 | No more than 3 | More than 3 | Excellent |
| Third releases* | None | No more than 1 | No more than 1 | More than 2 | Excellent |
| Average termination pressure** | Less than 10 hPa | 10.1-15.9 hPa | 16-20 hPa | Greater than 20 hPa | Poor. 21.8 mb. One flight to 857 mb significantly lowered average. All flights had balloon burst. |
| Rejects during baseline*** | None | No more than 2 | No more than 5 | More than 5 | Good. Two rejects |
| Missed Flights | None | No more than 1 | No more than 2 | More than 2 | Good, 1 from when UPS test failed. |

* These only include non-induced failures of any type causing a second or third release.

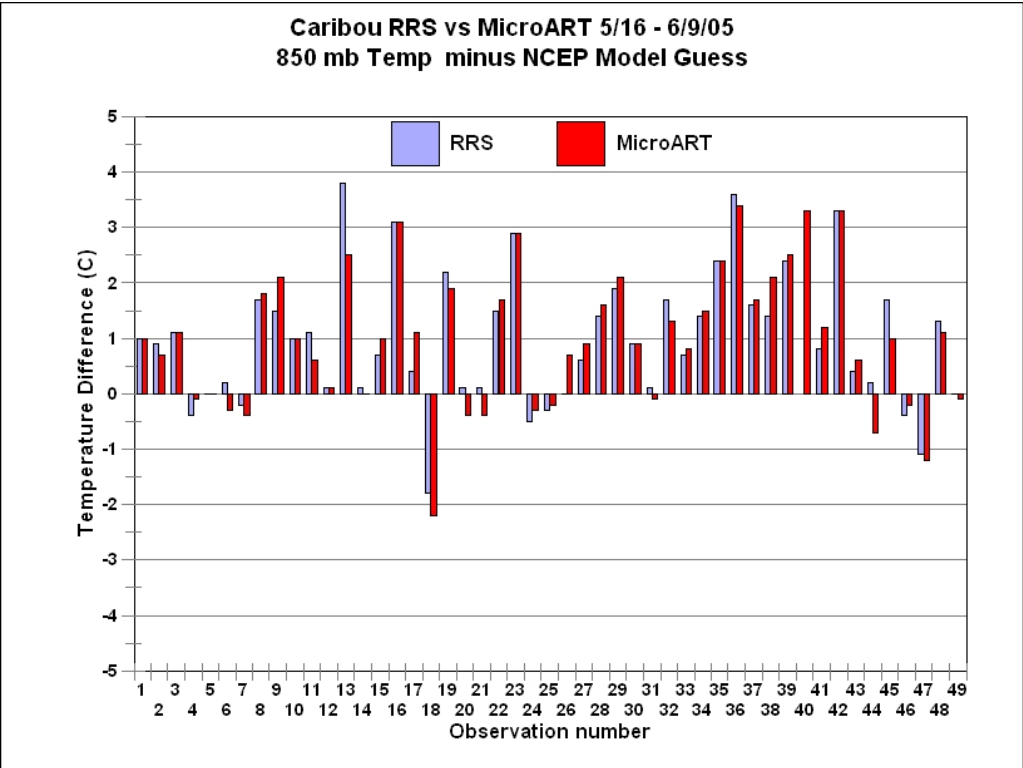
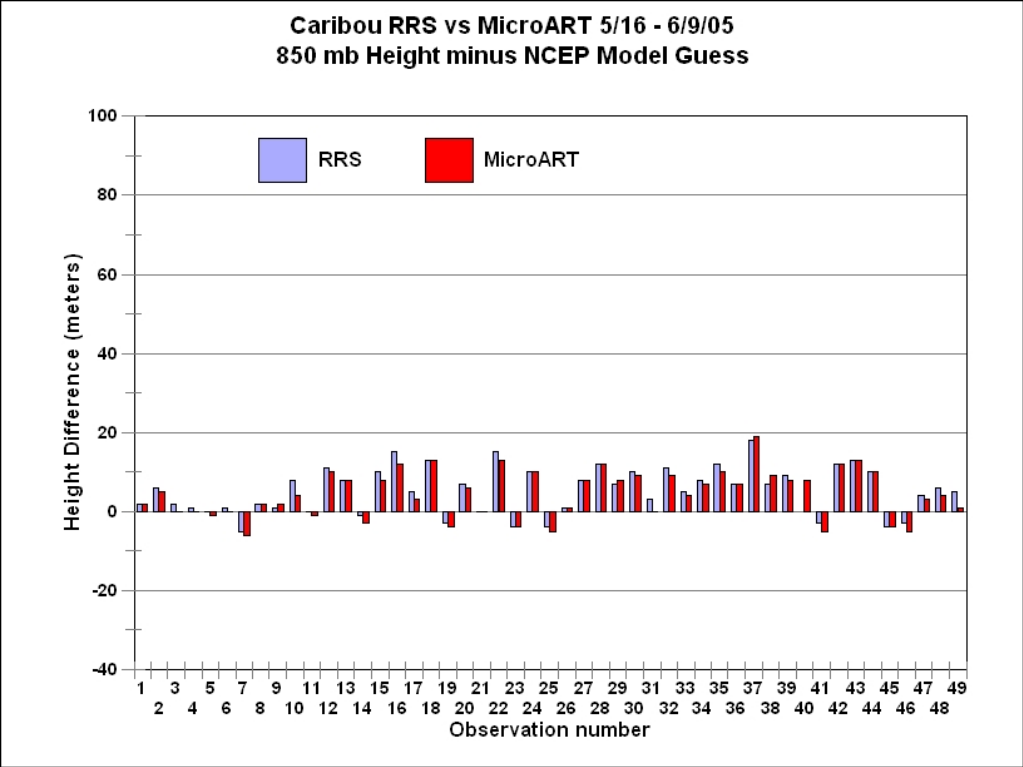
** It is recognized these are also a function of balloon; therefore early balloon burst will not be counted against RRS POPM.

*** Note, radiosondes rejected during baseline will be retested in the next scheduled observation window as is currently done.

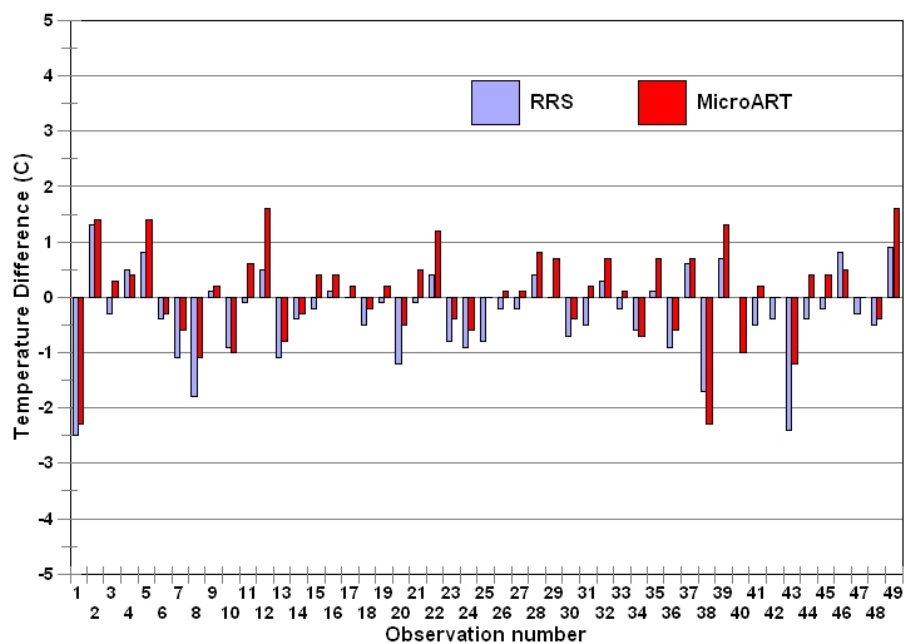
Appendix E

System Test Phase II Test Report

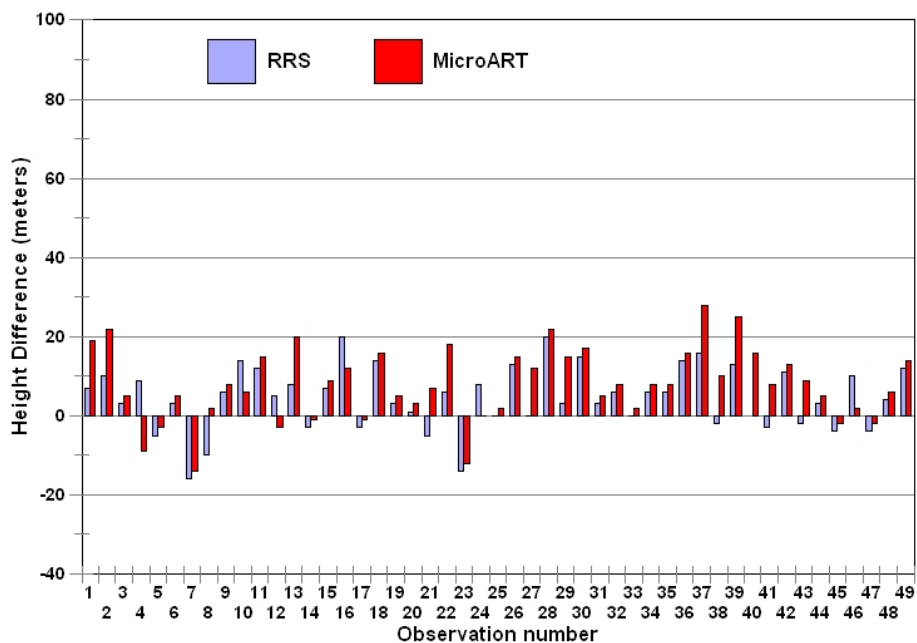
NCEP Difference Plots

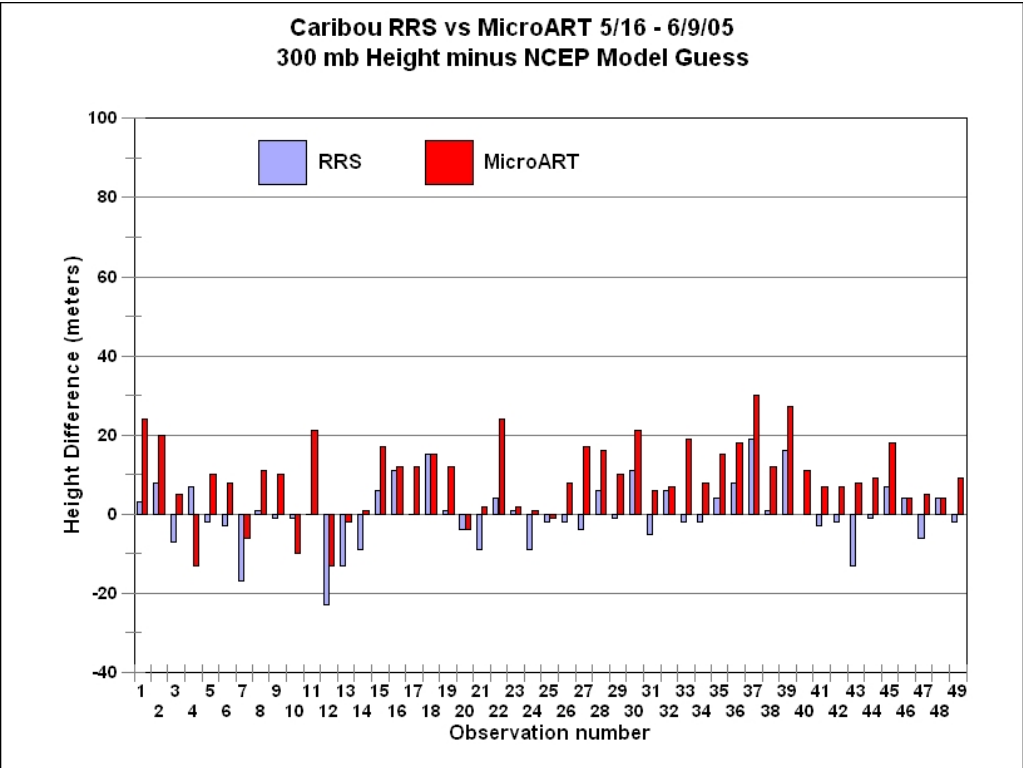
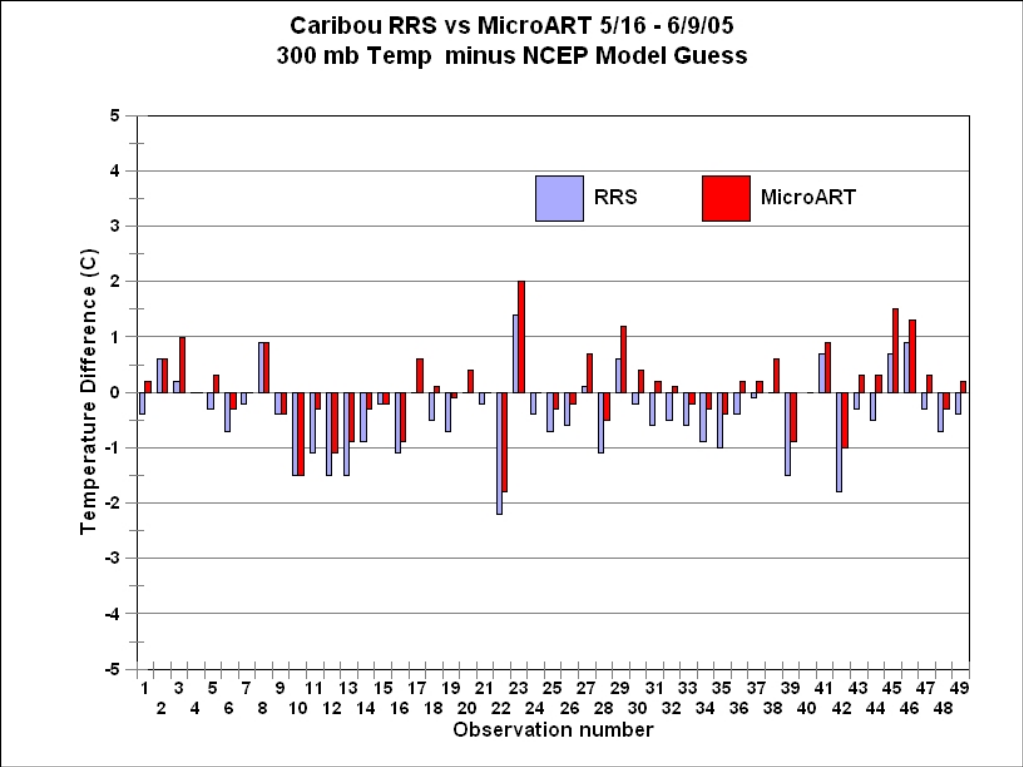


Caribou RRS vs MicroART 5/16 - 6/9/05
500 mb Temp minus NCEP Model Guess

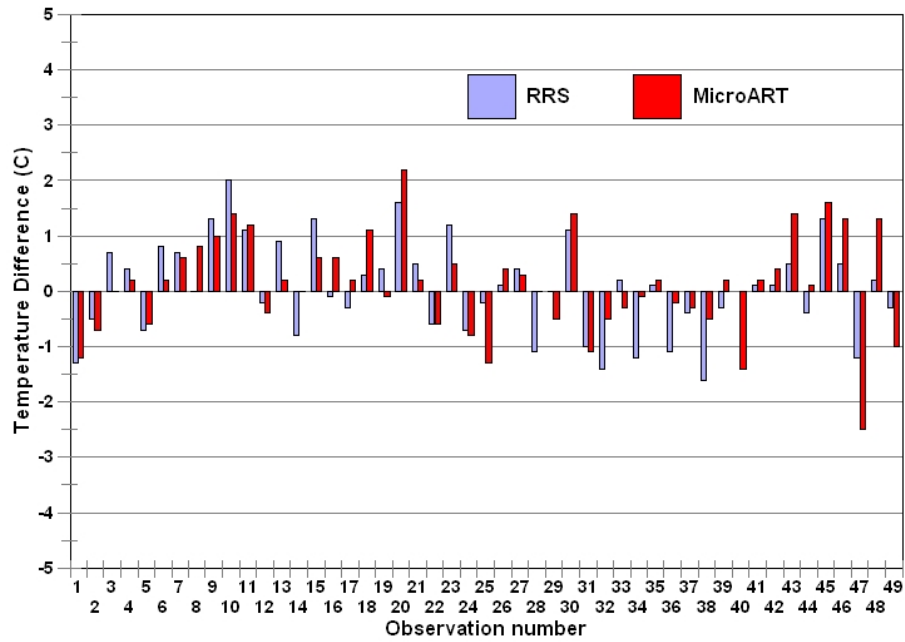


Caribou RRS vs MicroART 5/16 - 6/9/05
500 mb Height minus NCEP Model Guess

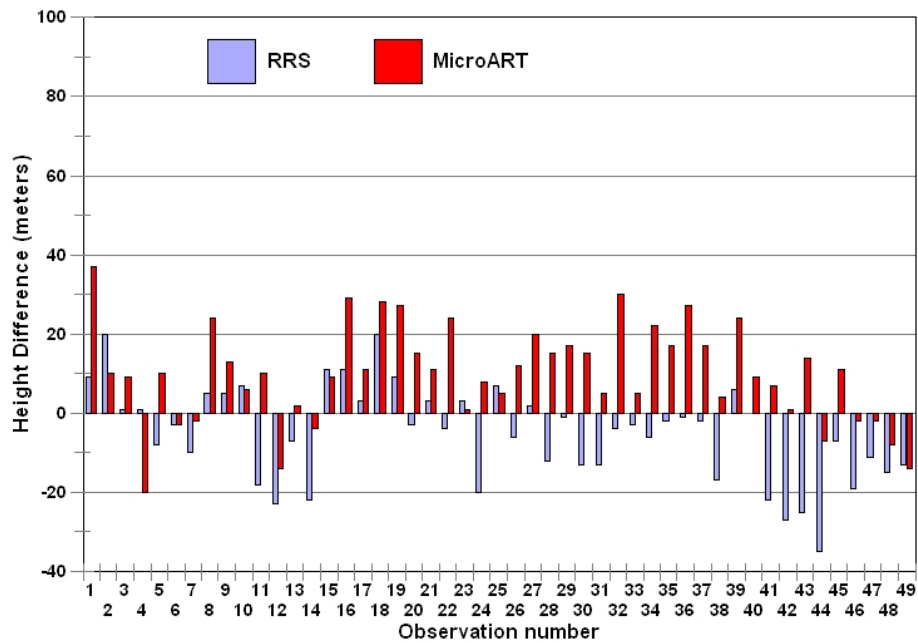


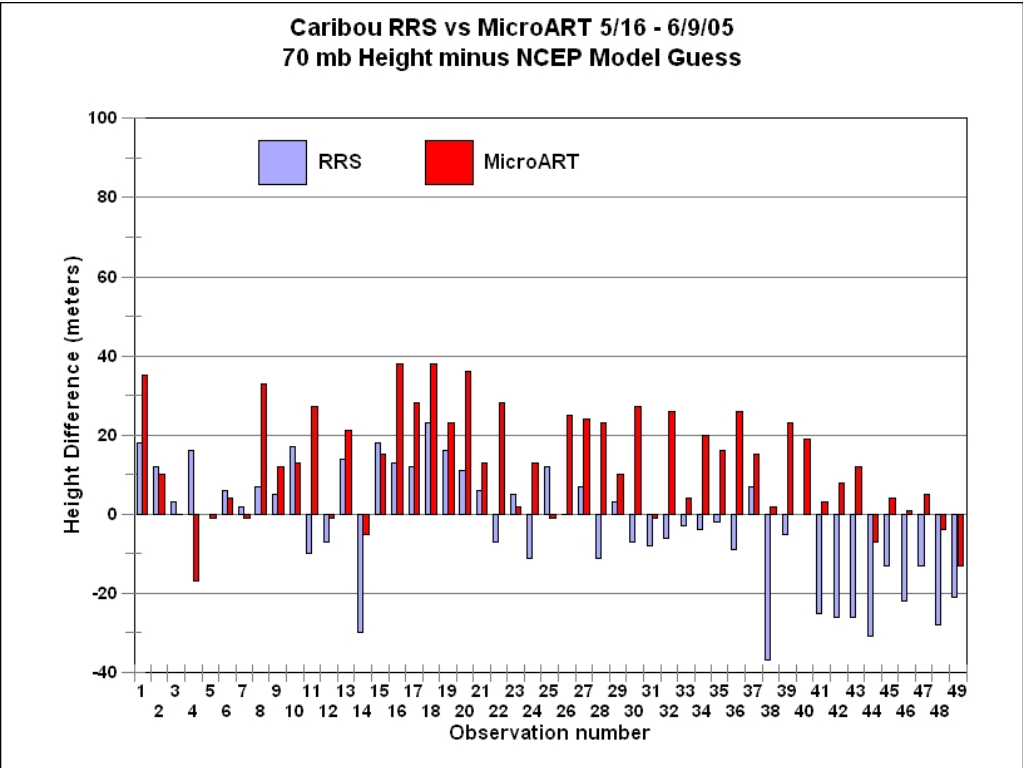
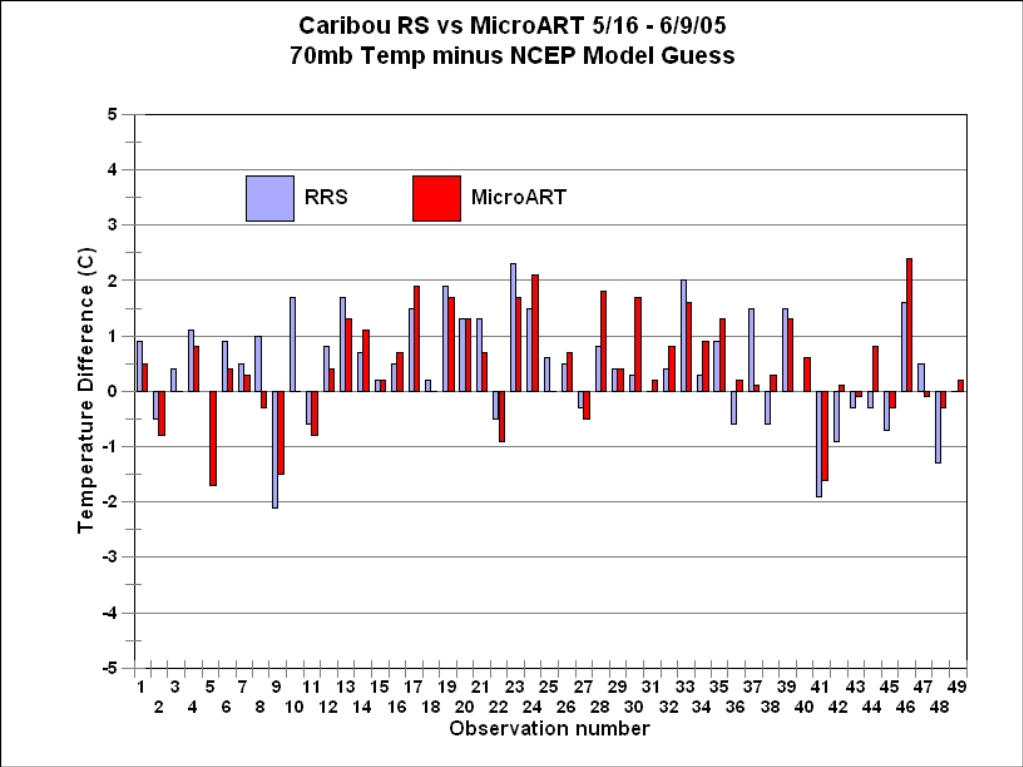


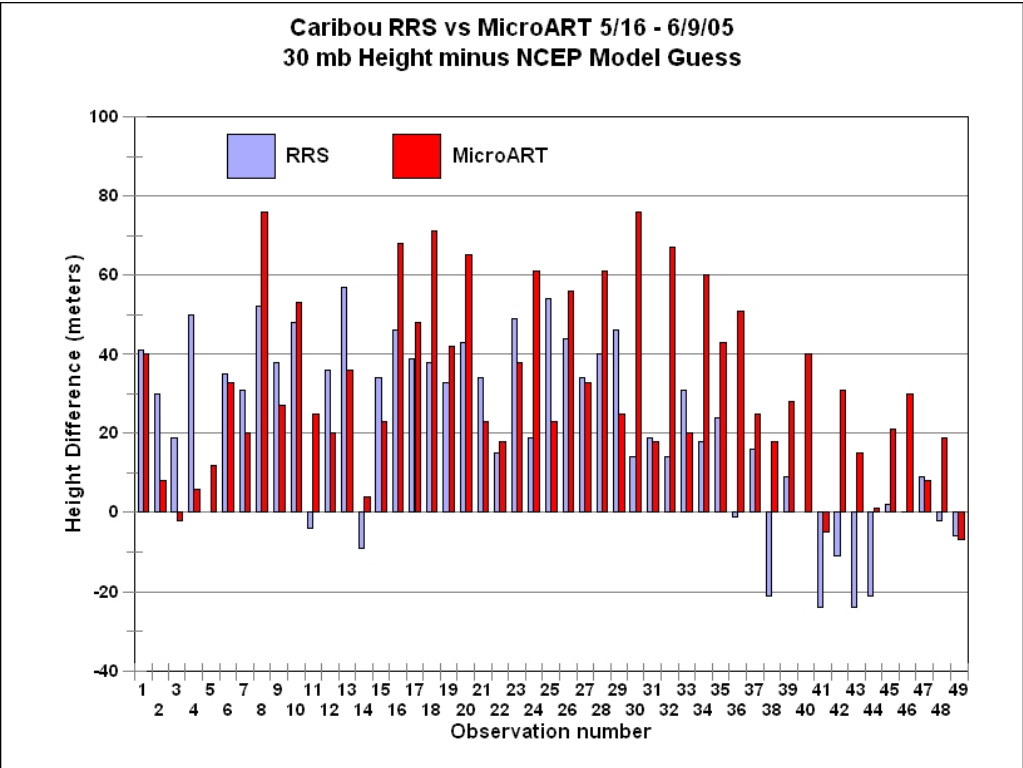
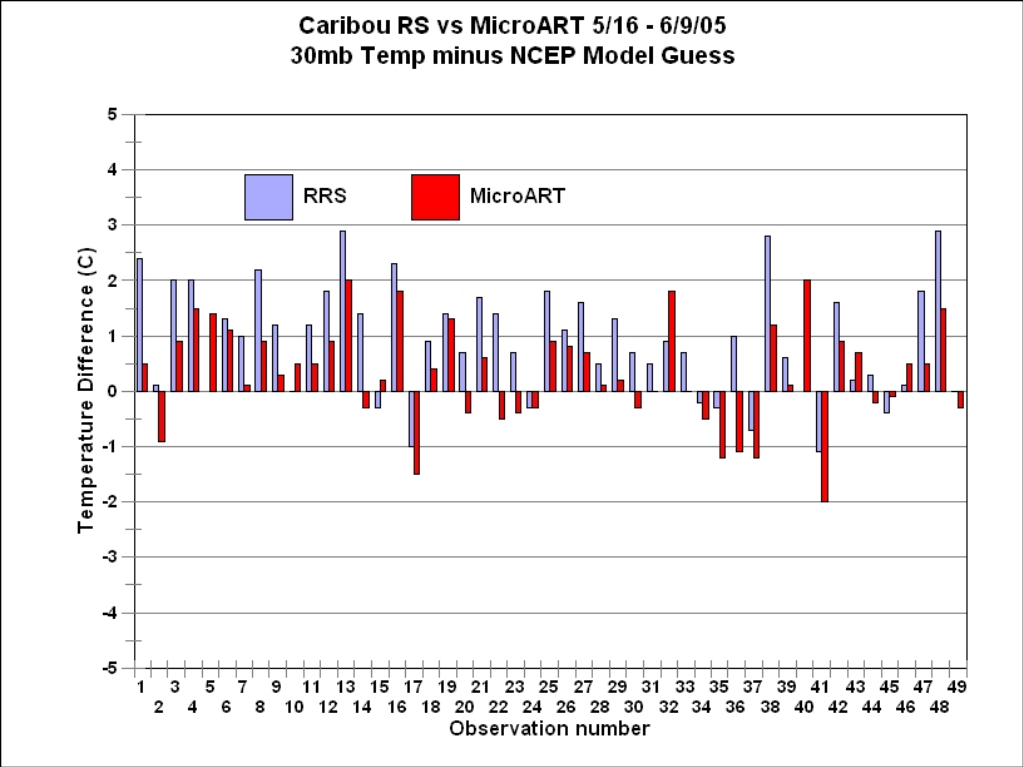
Caribou RRS vs MicroART 5/16 - 6/9/05
100 mb Temp minus NCEP Model Guess

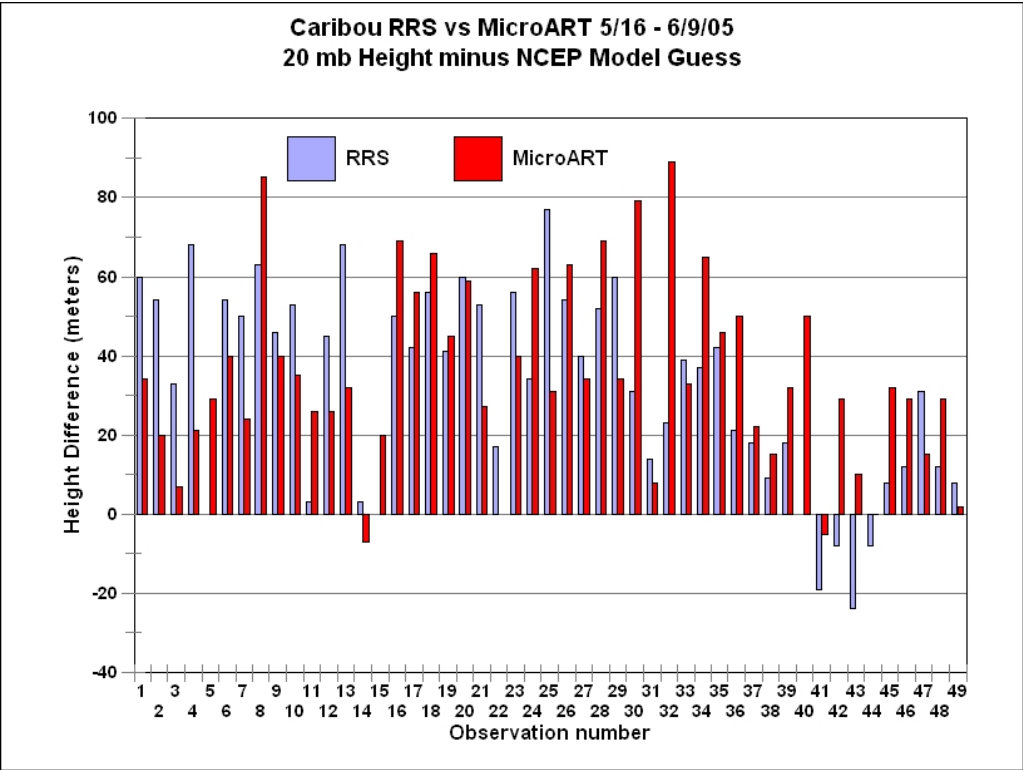
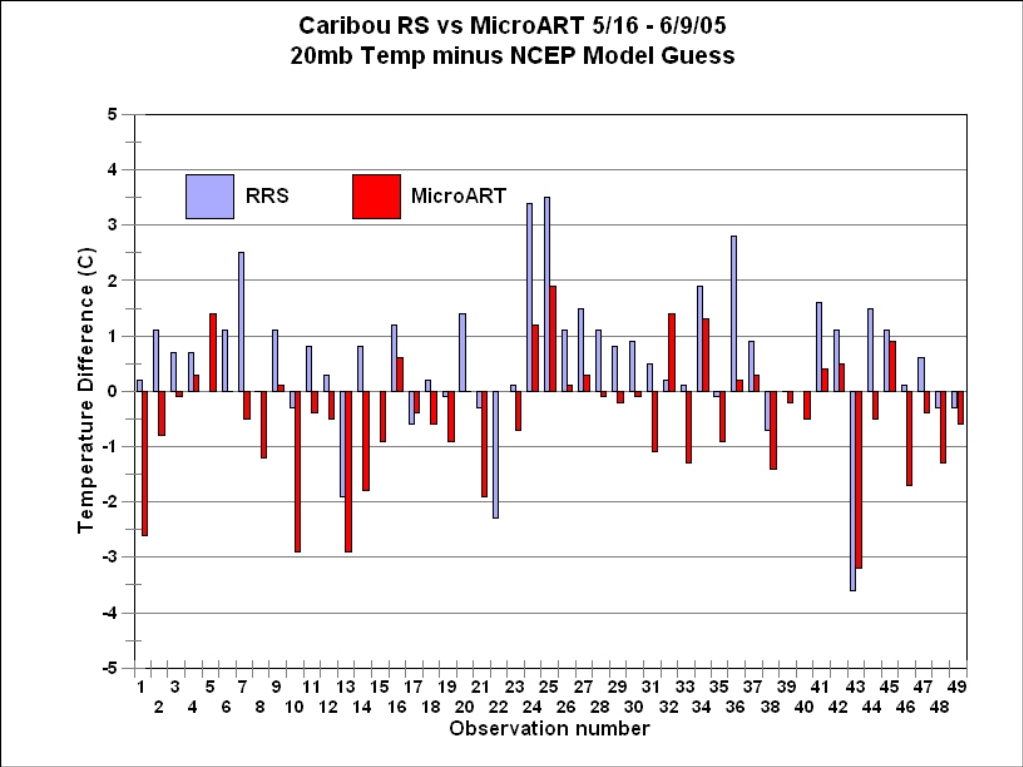


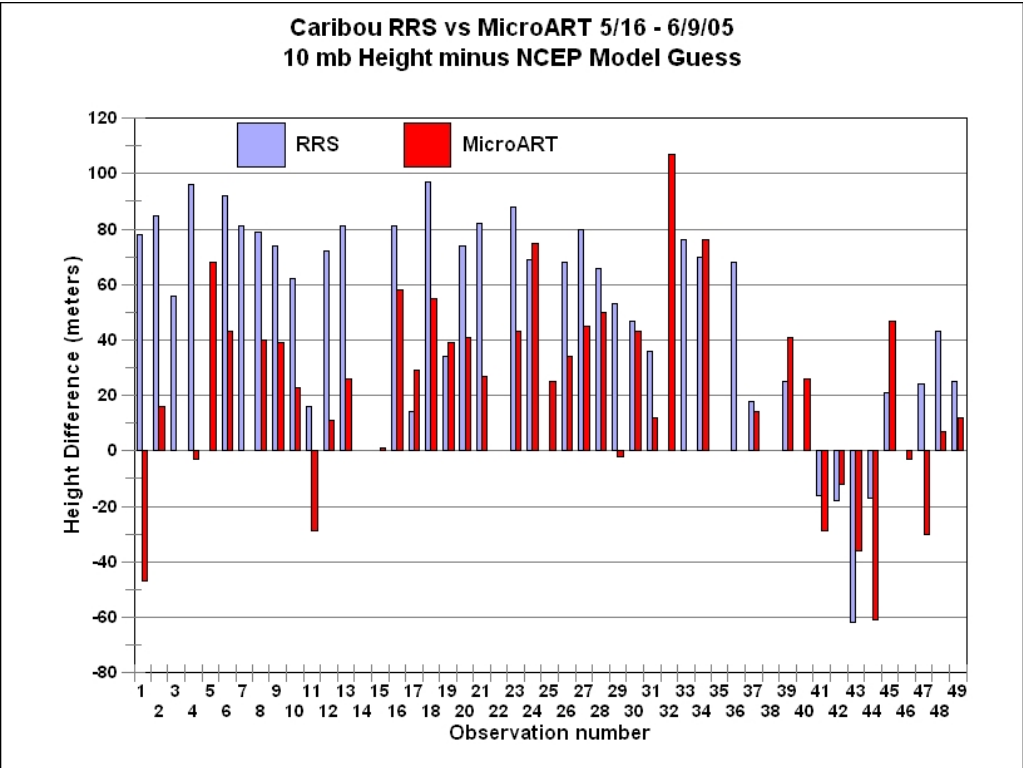
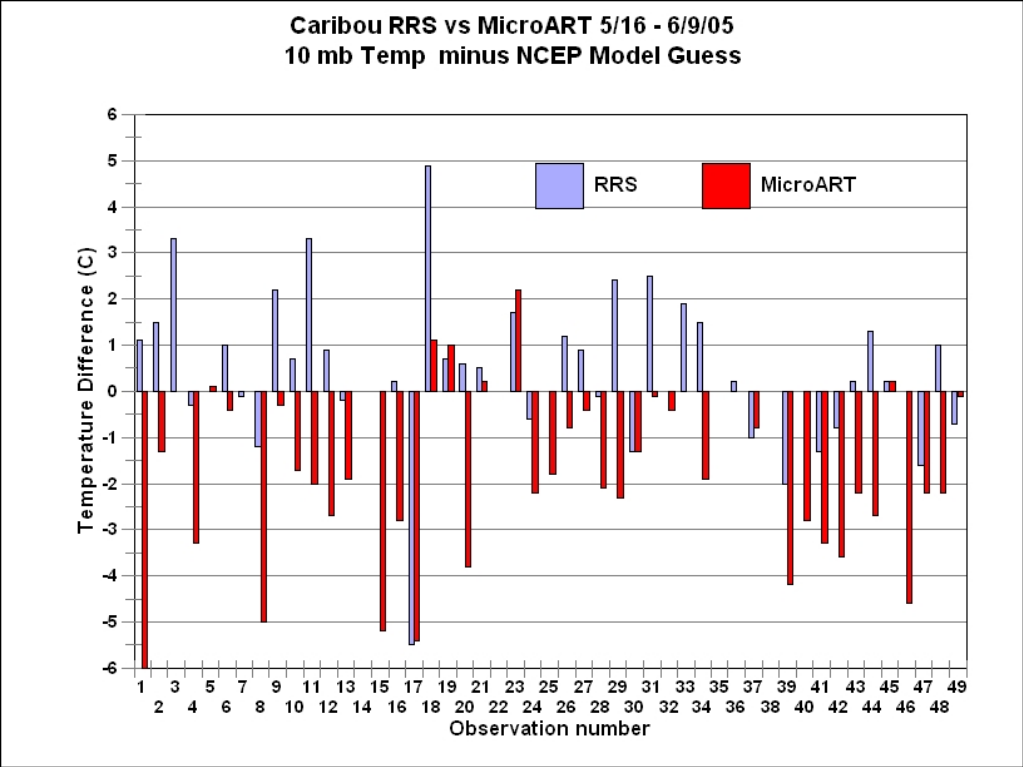
Caribou RRS vs MicroART 5/16 - 6/9/05
100 mb Height minus NCEP Model Guess











Appendix E

System Test Phase II Test Report

PLOTS of IPW

